

GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: July 10, 2002, 08:25:43 ; Search time 10.36 Seconds
(without alignments)
59.799 Million cell updates/sec

Title: US-09-508-054-19

Perfect score: 87

Sequence: 1 YLRIVQCRSVEGSGGF 16

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 150 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	83	95.4	217	1 SOMA_CALJA	O9qmb3 callithrix
2	83	95.4	217	1 SOMA_HUMAN	P01241 homo sapien
3	83	95.4	217	1 SOMA_MACMU	P33093 macaca mula
4	83	95.4	217	1 SOMA_SAIBB	P58343 saimiri bol
5	83	95.4	217	1 SOMV_HUMAN	P01242 homo sapien
6	80	92.0	217	1 PLL_HUMAN	P01243 homo sapien
7	71	81.6	217	1 SOMV_MACMU	Q07370 macaca mula
8	52.5	60.3	215	1 SOMA_MONDO	Q9g160 monodelphis
9	51.5	59.2	190	1 SOMA_BALBO	P33092 batelaopter
10	51.5	59.2	190	1 SOMA_LAMPA	P37885 lama guanac
11	51.5	59.2	190	1 SOMA_LOXAF	P20392 loxodonta a
12	51.5	59.2	190	1 SOMA_VULVU	P10766 vulpes vulp
13	51.5	59.2	215	1 SOMA_TRIVU	O62754 trichosurus
14	51.5	59.2	216	1 SOMA_CANFA	P33711 canis famil
15	51.5	59.2	216	1 SOMA_FELCA	P46404 felis silve
16	51.5	59.2	216	1 SOMA_HORSE	P01245 equus cabal
17	51.5	59.2	216	1 SOMA_MESAU	P37886 mesocricetu
18	51.5	59.2	216	1 SOMA_MOUSE	P06880 mus musculu
19	51.5	59.2	216	1 SOMA_MUSVI	P19795 mustela vis
20	51.5	59.2	216	1 SOMA_PIG	P01248 sus scrofa
21	51.5	59.2	217	1 SOMA_GALSE	Q9gkal galago sene
22	51.5	59.2	217	1 SOMA_NYCPY	O9qmb2 nycticebus
23	48.5	55.7	216	1 SOMA_RABIT	P46407 oryctolagus
24	47.5	54.6	216	1 SOMA_RAT	P01244 rattus norv
25	46.5	53.4	217	1 SOMA_BOVIN	P01246 bos taurus
26	46.5	53.4	217	1 SOMA_BUBBU	O18938 bubalus bub
27	46.5	53.4	217	1 SOMA_CEREL	P56437 cervus elap
28	46.5	53.4	217	1 SOMA_SHEEP	P01247 ovvis aries
29	43.5	50.0	215	1 SOMA_RANCA	P10813 rana catesb
30	42	48.3	827	1 CADH_MOUSE	Q9r100 mus musculu
31	41	47.1	227	1 PRRA_RAT	P09320 rattus norv
32	41	47.1	569	1 PYRD_PLAFA	Q08210 plasmodium
33	41	47.1	1964	1 NTC4_MOUSE	P31695 mus musculu

34	40	46.0	354	1	LPXD_CHLTR	084245 chlamydia t
35	40	46.0	360	1	ATSL_MOUSE	Q9z8n6 chlamydia p
36	40	46.0	968	1	DPOL_ADE02	P97857 mus musculu
37	40	46.0	1056	1	DPOL_ADE05	P03261 human adeno
38	40	46.0	1056	1	DPOL_ADE05	P04495 human adeno
39	40	46.0	2124	1	Y192_HUMAN	Q93074 homo sapien
40	39.5	45.4	134	1	PRL_BUFJA	P43001 bufo japoni
41	39.5	45.4	190	1	SOM1_ACIGU	P26773 acipenser g
42	39.5	45.4	190	1	SOM2_ACIGU	P26773 acipenser g
43	39.5	45.4	207	1	SOMA_LABRO	Q9w6j7 labeo rohit
44	39.5	45.4	210	1	SOM1_CARAU	O93359 carassius a
45	39.5	45.4	210	1	SOM2_CARAU	O93360 carassius a
46	39.5	45.4	210	1	SOMA_CTEID	P20390 ctenopharyn
47	39.5	45.4	210	1	SOMA_CYPCA	P10298 cyprinus ca
48	39.5	45.4	210	1	SOMA_MISMI	Q9w6j5 misgurnus m
49	39.5	45.4	211	1	SOMA_LEPOS	P79885 lepisosteus
50	39.5	45.4	213	1	SOMA_BUEMA	O73849 bufo marinu
51	39.5	45.4	214	1	SOMA_XENLA	P12855 xenopus lae
52	39.5	45.4	230	1	PLL1_RAT	P21702 rattus norv
53	39.5	45.4	527	1	TH11_TRYBB	Q06221 trypanosoma
54	39.5	45.4	528	1	TH12_TRYBB	Q09037 trypanosoma
55	39.5	45.4	1112	1	SUS1_HUMAN	Q9qgr1 homo sapien
56	39	44.8	349	1	RECA_ACICA	P42438 acinetobact
57	39	44.8	354	1	LPXD_CHLMU	Q9pkf1 chlamydia m
58	39	44.8	365	1	YAGB_SCHPO	Q09874 schizosacch
59	39	44.8	365	1	YN07_ARCFU	P27977 archaeoglob
60	39	44.8	586	1	GGT5_HUMAN	P36269 homo sapien
61	39	44.8	856	1	VP2_MOUSE	P15920 mus musculu
62	39	44.8	879	1	LDLR_RAT	P35952 rattus norv
63	38.5	44.3	209	1	SOMA_ANGJA	P08899 anguilla ja
64	38.5	44.3	829	1	CADG_HUMAN	O75309 homo sapien
65	38	43.7	28	1	IEL1_MOMCH	P10296 momordica c
66	38	43.7	348	1	VAOD_MANSE	Q25531 manduca sex
67	38	43.7	350	1	VD01_DROME	Q9w4p5 drosophila
68	38	43.7	351	1	VAOD_HUMAN	P12953 homo sapien
69	38	43.7	351	1	VAOD_MOUSE	P51863 mus musculu
70	37.5	43.1	200	1	PRL_PROAT	P33091 protopterus
71	37.5	43.1	206	1	SOMA_PROAN	O73848 protopterus
72	37.5	43.1	209	1	SOMA_ESOLU	P34744 esox lucius
73	37.5	43.1	210	1	SOM1_ONCMY	O95338 oncorhynch
74	37.5	43.1	210	1	SOM1_ONCNE	O91222 oncorhynch
75	37.5	43.1	210	1	SOM2_ONCNE	Q91221 oncorhynch
76	37.5	43.1	210	1	SOMA_CORAU	P45655 coregonus a
77	37.5	43.1	210	1	SOMA_CORLV	O13188 coregonus l
78	37.5	43.1	210	1	SOMA_ONCKE	P07064 oncorhynch
79	37.5	43.1	210	1	SOMA_ONCKE	P10607 oncorhynch
80	37.5	43.1	210	1	SOMA_ONCMA	Q9d9g5 oncorhynch
81	37.5	43.1	210	1	SOMA_ONCTS	Q07321 oncorhynch
82	37.5	43.1	210	1	SOMA_SALSA	P10814 salmo salar
83	37	42.5	28	1	ITR2_MOMCH	P10295 momordica c
84	37	42.5	38	1	DEF1_MVTGA	P08571 mytilus gal
85	37	42.5	86	1	Y173_HAEIN	P43960 haemophilus
86	37	42.5	222	1	PLL2_DROME	P09586 mus musculu
87	37	42.5	350	1	VD02_DROME	Q9vcq3 drosophila
88	37	42.5	351	1	WNT4_CHICK	P49337 gallus gall
89	37	42.5	415	1	PGK_OPIST	P50311 opisthorchi
90	37	42.5	457	1	BPHA_COMTE	Q46372 comamonas t
91	37	42.5	458	1	BPA1_PSES1	Q52438 pseudomonas
92	37	42.5	458	1	BPHA_BURCE	P37333 burkholderi
93	37	42.5	458	1	BPHA_PSEPS	Q52028 pseudomonas
94	37	42.5	459	1	YHW8_YEAST	P38860 saccharomyc
95	37	42.5	745	1	CHSD_ASFPF	P78746 aspergillus
96	37	42.5	827	1	CADH_RAT	P55281 rattus norv
97	37	42.5	937	1	CADH_HUMAN	Q12864 homo sapien
98	37	42.5	962	1	ATSL_RAT	Q9w4q1 rattus norv
99	37	42.5	1038	1	SOG_DROME	Q24025 drosophila
100	37	42.5	1738	1	CO4_MOUSE	P01029 mus musculu
101	37	42.5	2768	1	THYG_HUMAN	P01266 homo sapien
102	36.5	42.0	206	1	SOMA_CARDE	P24363 caranx deli
103	36.5	42.0	552	1	VNS1_EHDV2	P27585 epizootic h
104	36	41.4	118	1	PA26_BUNFA	P00627 bungarus fa
105	36	41.4	118	1	PA2A_BUNFA	P00628 bungarus fa
106	36	41.4	118	1	PA2B_BUNFA	P00629 bungarus fa

```

107 36 41.4 212 1 AGIL_WHEAT
108 36 41.4 220 1 UPAS_RAT
109 36 41.4 221 1 PLL2_MESAU
110 36 41.4 222 1 UPAS_MOUSE
111 36 41.4 227 1 AGL_ORYSA
112 36 41.4 229 1 PRL_CHICK
113 36 41.4 236 1 PLL_SHEEP
114 36 41.4 260 1 VD10_SFVKA
115 36 41.4 274 1 RECA_NEIPH
116 36 41.4 286 1 VNSI_INCAA
117 36 41.4 286 1 VNSI_INCCA
118 36 41.4 286 1 VNST_INCGH
119 36 41.4 286 1 VNST_INCLJL
120 36 41.4 286 1 VNST_INCM
121 36 41.4 286 1 VNST_INCMY
122 36 41.4 327 1 UPAR_MOUSE
123 36 41.4 327 1 UPAR_MOUSE
124 36 41.4 327 1 UPAR_MOUSE
125 36 41.4 339 1 E2BL_ARCFU
126 36 41.4 350 1 WN8B_MOUSE
127 36 41.4 351 1 WN8B_HUMAN
128 36 41.4 357 1 WN8C_CHICK
129 36 41.4 358 1 WN8B_BRARE
130 36 41.4 428 1 WN8B_XENLA
131 36 41.4 430 1 VG49_BPFF1
132 36 41.4 442 1 TBL2_MOUSE
133 36 41.4 453 1 SHT1_APLCA
134 36 41.4 513 1 POLG_HCVJ2
135 36 41.4 558 1 TF65_CHICK
136 36 41.4 653 1 UVRC_METHH
137 36 41.4 854 1 EGLN_MOUSE
138 36 41.4 854 1 LDLR_CRIGR
139 36 41.4 918 1 YK62_CAEEL
140 36 41.4 967 1 ATSL_HUMAN
141 36 41.4 1175 1 PTNL_RAT
142 36 41.4 1176 1 PTNL_MOUSE
143 36 41.4 1690 1 FUR2_DROME
144 36 41.4 1744 1 CO4_HUMAN
145 36 41.4 2769 1 THYG_BOVIN
146 35.5 40.8 829 1 CADG_RABIT
147 35.5 40.8 830 1 CADG_MOUSE
148 35 40.2 162 1 CRE_CARAU
149 35 40.2 171 1 RPB_YEAST
150 35 40.2 198 1 FAS6_RHOFA

```

ALIGNMENTS

```

RESULT 1
SOMA_CALJA STANDARD; PRT; 217 AA.
AC Q9GMB3;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.

```

```

OS Callithrix jacchus (Common marmoset).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callitrix.
OX NCBI_TaxID=9483;
RN [1]
RP SEQUENCE FROM N.A.
RA Wallis O.C., Wallis M.;
RT "Cloning and characterization of a putative growth hormone encoding
RT gene from the marmoset (Callithrix jacchus).";
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
-----

```

```

CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
-----

```

```

DR EMBL; AJ297563; CAC03481.1; -
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 217 SOMATOTROPIN.
FT DISULFID 79 191 BY SIMILARITY.
FT DISULFID 208 215 BY SIMILARITY.
SQ SEQUENCE 217 AA; 24959 MW; E102151A12CE6192 CRC64;

```

```

Query Match 95.4%; Score 83; DB 1; Length 217;
Best Local Similarity 93.8%; Pred. No. 3.9e-06;
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```

```
QY 1 YLRIVOCRSVEGSCGF 16
```

```
Db 202 FLRIVOCRSVEGSCGF 217
```

```

RESULT 2
SOMA_HUMAN STANDARD; PRT; 217 AA.
ID SOMA_HUMAN
AC P01241;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAR-1992 (Rel. 21, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Denoto F.M., Moore D.D., Goodman H.M.;
RT "Human growth hormone DNA sequence and mRNA structure: possible
RT alternative splicing.";
RL Nucleic Acids Res. 9:3719-3730(1981).
RN [2]
RP SEQUENCE FROM N.A.
RA MEDLINE-80034477; PubMed-386281;
RA Roskam W., Rougeon F.;
RT "Molecular cloning and nucleotide sequence of the human growth
RT hormone structural gene.";
RL Nucleic Acids Res. 7:305-320(1979).
RN [3]
RP SEQUENCE FROM N.A.
RA MEDLINE-79203293; PubMed-377496;
RA Martial J.A., Hallewell R.A., Baxter J.D., Goodman H.M.;
RT "Human growth hormone: complementary DNA cloning and expression in
RT bacteria.";
RL Science 205:602-607(1979).
RN [4]
RP SEQUENCE FROM N.A.
RA MEDLINE-89307277; PubMed-2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A.,
RA Gelinis R.E., Seeburg P.H.;
RT "The human growth hormone locus: nucleotide sequence, biology, and
RT evolution.";
RL Genomics 4:479-497(1989).

```

RN [5]
 RP MEDLINE=69289202; PubMed=5810834;
 RA Li C.H., Dixon J.S., Liu W.-K.;
 RT "Human pituitary growth hormone. XIX. The primary structure of the
 RT hormone.";
 RL Arch. Biochem. Biophys. 133:70-91(1969).
 RN [6]
 RP MEDLINE=72143935; PubMed=5144027;
 RA Li C.H., Dixon J.S.;
 RT "Human pituitary growth hormone. 32. The primary structure of the
 RT hormone: revision.";
 RL Arch. Biochem. Biophys. 146:233-236(1971).
 RN [7]
 RP MEDLINE=71139765; PubMed=5279046;
 RA Niall H.D.;
 RT "Revised primary structure for human growth hormone.";
 RL Nature New Biol. 230:90-91(1971).
 RN [8]
 RP REVISION.
 RP MEDLINE=73092028; PubMed=4675454;
 RA Bewley T.A., Dixon J.S., Li C.H.;
 RT "Sequence comparison of human pituitary growth hormone, human
 RT chorionic somatomotropin, and ovine pituitary growth and
 RT lactogenic hormones.";
 RL Int. J. Pept. Protein Res. 4:281-287(1972).
 RN [9]
 RP REVISION.
 RA Niall H.D.;
 RT "The chemistry of the human lactogenic hormones.";
 RL (In) Griffiths K. (eds.);
 RL prolactin and carcinogenesis, Proc. fourth tenovus workshop prolactin,
 RL pp.13-20, Alpha Omega Alpha Press, Cardiff (1972).
 RN [10]
 RP REVISIONS TO 119-120 AND 157-159.
 RX MEDLINE=71153968; PubMed=5279528;
 RA Niall H.D., Hogan M.L., Sauer R.;
 RT "Sequences of pituitary and placental lactogenic and growth hormones:
 RT evolution from a primordial peptide by gene reduplication.";
 RL Proc. Natl. Acad. Sci. U.S.A. 68:866-869(1971).
 RN [11]
 RP SEQUENCE OF 27-57 AND 73-79.
 RX MEDLINE=81117361; PubMed=7462247;
 RA Chapman G.E., Rogers K.M., Brittain T., Bradshaw R.A., Bates O.J.,
 RA Turner C., Cary P.D., Crane-Robinson C.;
 RT "The 20,000 molecular weight variant of human growth hormone.
 RT Preparation and some physical and chemical properties.";
 RL J. Biol. Chem. 256:2395-2401(1981).
 RN [12]
 RP SEQUENCE OF 46-57 AND 73-80.
 RX MEDLINE=80130196; PubMed=7356479;
 RA Lewis U.J., Bonewald L.F., Lewis L.J.;
 RT "The 20,000-dalton variant of human growth hormone: location of the
 RT amino acid deletions.";
 RL Biochem. Biophys. Res. Commun. 92:511-516(1980).
 RN [13]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=88190073; PubMed=3447173;
 RA Cohen F.E., Kuntz I.D.;
 RT "Prediction of the three-dimensional structure of human growth
 RT hormone.";
 RL Proteins 2:162-166(1987).
 RN [14]
 RP X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
 RX MEDLINE=92196577; PubMed=1549776;
 RA de Vos A.M., Uitsch M., Kossiakoff A.A.;
 RT "Human growth hormone and extracellular domain of its receptor:
 RT crystal structure of the complex.";
 RL Science 255:306-312(1992).
 RN [15]
 RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).

RX MEDLINE=95075462; PubMed=7984244;
 RA Somers W., Uitsch M., de Vos A.M., Kossiakoff A.A.;
 RT "The X-ray structure of a growth hormone-prolactin receptor complex.";
 RL Nature 372:478-481(1994).
 RN [16]
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
 RA Chantalat L., Chirgadze N.Y., Jones N., Korber F., Navaza J.,
 RA Pavlovsk A.G., Wlodawer A.;
 RT "The crystal-structure of wild-type growth-hormone at 2.5-A
 RT resolution.";
 RL Protein Pept. Lett. 2:333-340(1995).
 RN [17]
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
 RX MEDLINE=97113023; PubMed=8943276;
 RA Sundstroem M., Lundqvist T., Roedin J., Giebel L.B., Milligan D.,
 RA Norstedt G.;
 RT "Crystal structure of an antagonist mutant of human growth hormone,
 RT G120R, in complex with its receptor at 2.9-A resolution.";
 RL J. Biol. Chem. 271:32197-32203(1996).
 CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
 CC CONTROL.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS: A 20 kDa SHORT VARIANT WHICH LACKS 58-72 IS
 CC PRODUCED AS THE RESULT OF SPLICING AT THE ALTERNATE JUNCTION
 CC OF THE SECOND INTRON.
 CC -!- DISEASE: DEFECTS IN GH1 ARE A CAUSE OF PITUITARY DWARFISM I AND
 CC IV.
 CC -!- PHARMACEUTICAL: Available under the names Nutropin or Protropin
 CC (Genentech), Norditropin (Novo Nordisk), Genotropin (Pharmacia
 CC Upjohn), Humatrope (Eli Lilly) and Saizen or Serostim (Serono).
 CC Used for the treatment of growth hormone deficiency and for
 CC Turner's syndrome.
 CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
 CC -----
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
 CC the European Bioinformatics Institute. There are no restrictions on its
 CC use by non-profit institutions as long as its content is in no way
 CC modified and this statement is not removed. Usage by and for commercial
 CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
 CC or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL; V00519; CAA23778.1; -;
 DR EMBL; J03071; AAA52549.1; -;
 DR EMBL; M13438; AAA98618.1; -;
 DR EMBL; A12770; CAA01057.1; -;
 DR EMBL; A00469; CAA00065.1; -;
 DR PIR; A01510; STHU.
 DR PIR; A32435; A32435.
 DR PDB; 3HHR; 30-APR-94.
 DR PDB; 1HUW; 31-JAN-94.
 DR PDB; 1HGU; 07-DEC-95.
 DR PDB; 1HWG; 19-NOV-97.
 DR PDB; 1HWH; 19-NOV-97.
 DR PDB; 1AXI; 28-JAN-98.
 DR PDB; 1A22; 29-APR-98.
 DR PDB; 1BP3; 23-SEP-98.
 DR MIM; 139250; -;
 DR MIM; 262400; -;
 DR MIM; 282650; -;
 DR InterPro; IPR001400; SOMATOTROPIN.
 DR Pfam; PF00103; hormone; 1.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Pituitary; Hormone; Alternative splicing; Signal; 3D-structure;
 KW Dwarfism; Pharmaceutical; Polymorphism.
 FT SIGNAL 1 26
 FT CHAIN 27 217 SOMATOTROPIN.
 FT DISULFID 79 191
 FT DISULFID 208 215
 FT VARSPPLIC 58 72 MISSING (IN 20 KDA ISOFORM).
 FT VARIANT 3 3 T -> A (IN DBSNP:2001345).

FT VARIANT 105 105 /FTID=VAR_011917.
FT S -> C (IN DBSNP:6174).
FT /FTID=VAR_011918:5388).
FT V -> I (IN DBSNP:5388).
FT /FTID=VAR_011919.

FT HELIX 32 61
FT HELIX 64 72
FT TURN 76 77
FT TURN 80 83
FT TURN 90 94
FT TURN 95 95
FT HELIX 98 110
FT TURN 111 114
FT TURN 111 114
FT HELIX 115 125

Query Match 95.4%; Score 83; DB 1; Length 217;
Best Local Similarity 93.8%; Pred. No. 3.9e-06;
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVOCRSVEGSCGF 16
Db 202 FLRIVOCRSVEGSCGF 217

RESULT 3
SOMA_MACMU STANDARD; PRT; 217 AA.
AC P33093;

DT 01-OCT-1993 (Rel. 27, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).

GN GH1.

OS Macaca mulatta (Rhesus macaque).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;

OC Cercopithecoidea; Macaca.

OX NCBI_TaxID=9544;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=94008724; PubMed=8404617;

RA Golos T.G., Durning M., Fisher J.M., Fowler P.D.;

RT "Cloning of four growth hormone/chorionic somatomammotropin-related

complementary deoxyribonucleic acids differentially expressed during

pregnancy in the rhesus monkey placenta.";

RL Endocrinology 133:1744-1752(1993).

RN [2]

RP SEQUENCE OF 27-217.

RX MEDLINE=86129460; PubMed=3080959;

RA Li C.H., Chung D., Lahm H.W., Stein S.;

RT "The primary structure of monkey pituitary growth hormone.";

RL Arch. Biochem. Biophys. 245:287-291(1986).

CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH

CONTROL.

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

CC -----

CC EMBL; L16556; AAA18842.1; .

DR HSP; A05094; A05094.

DR HSP; P01241; 1HWG.

DR InterPro; IPR001400; SOMATOTROPIN.

DR Pfam; PF00103; hormone; 1.

DR PRINTS; PR00836; SOMATOTROPIN.

DR PROSITE; PS00266; SOMATOTROPIN_1; 1.

DR PROSITE; PS00338; SOMATOTROPIN_2; 1.

KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26
FT CHAIN 27 217 SOMATOTROPIN.
FT BY SIMILARITY.
FT DISULFID 79 191 BY SIMILARITY.
FT DISULFID 208 215 BY SIMILARITY.
FT CONFLICT 100 100 E -> Q (IN REF. 2).
FT CONFLICT 179 179 N -> D (IN REF. 2).
SQ SEQUENCE 217 AA; 24913 MW; 2C5180341EEC46D0 CRC64;

Query Match 95.4%; Score 83; DB 1; Length 217;
Best Local Similarity 93.8%; Pred. No. 3.9e-06;
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVOCRSVEGSCGF 16
Db 202 FLRIVOCRSVEGSCGF 217

RESULT 4
SOMA_SAIBB STANDARD; PRT; 217 AA.
ID P58343;

DT 01-MAR-2002 (Rel. 41, Created)

DT 01-MAR-2002 (Rel. 41, Last sequence update)

DT 01-MAR-2002 (Rel. 41, Last annotation update)

DE Somatotropin precursor (Growth hormone).

GN GH1.

OS Salmirol boliviensis boliviensis (Bolivian squirrel monkey).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Salmirol.

OX NCBI_TaxID=39432;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=21265430; PubMed=11371582;

RA Liu J.C., Makova K.D., Adkins R.M., Gibson S., Li W.H.;

RT "Episodic evolution of growth hormone in primates and emergence of the

species specificity of human growth hormone receptor.";

RL Mol. Biol. Evol. 18:945-953(2001).

CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH

CONTROL.

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

CC -----

DR EMBL; AF339060; AAK62287.1; .

DR PROSITE; PS00266; SOMATOTROPIN_1; 1.

DR PROSITE; PS00338; SOMATOTROPIN_2; 1.

KW Hormone; Pituitary; Signal.

FT SIGNAL 1 26 BY SIMILARITY.

FT CHAIN 27 217 SOMATOTROPIN.

FT BY SIMILARITY.

FT DISULFID 79 191 BY SIMILARITY.

FT DISULFID 208 215 BY SIMILARITY.

SQ SEQUENCE 217 AA; 24864 MW; 951528992C529F7 CRC64;

Query Match 95.4%; Score 83; DB 1; Length 217;
Best Local Similarity 93.8%; Pred. No. 3.9e-06;
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVOCRSVEGSCGF 16
Db 202 FLRIVOCRSVEGSCGF 217

RESULT 5

SOMV_HUMAN.
ID SOMV_HUMAN STANDARD; PRT; 217 AA.
AC P01242;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-AUG-1991 (Rel. 19, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Growth hormone variant I precursor (GH-V) (Placenta-specific growth hormone).
GN GH2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gellinas R.E., Seeburg P.H.;
RA "The human growth hormone locus: nucleotide sequence, biology, and evolution."; Genomics 4:479-497(1989).
RT [1]
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=88243769; PubMed=3379057;
RA Cooke N.E., Ray J., Emery J.G., Liebhaber S.A.;
RA "Two distinct species of human growth hormone-variant mRNA in the human placenta predict the expression of novel growth hormone proteins."; J. Biol. Chem. 263:9001-9006(1988).
RT [3]
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=83182010; PubMed=7169009;
RA Seeburg P.H.;
RA "The human growth hormone gene family: nucleotide sequences show recent divergence and predict a new polypeptide hormone."; DNA 1:239-249(1982).
RT [4]
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=89024984; PubMed=2460050;
RA Igout A., Scippo M.L., Franckne F., Hennen G.;
RA "Cloning and nucleotide sequence of placental hGH-V cDNA."; Arch. Int. Physiol. Biochim. 96:63-67(1988).
RL [5]
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: TWO GROWTH HORMONE VARIANTS ARE PRODUCED BY ALTERNATIVE SPLICING OF THE SAME GENE.
CC -!- TISSUE SPECIFICITY: THIS PROTEIN SEEMS TO BE EXPRESSED IN THE PLACENTA.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).
CC -----
DR EMBL; K00470; AAA98619.1; -
DR EMBL; J03756; AAB59548.1; -
DR EMBL; J03071; AAB52552.1; -
DR EMBL; M38451; AAA35891.1; -
DR PIR; A01511; STHUV.
DR PIR; B28072; B28072.
DR PIR; D32435; D32435.
DR HSP; P01241; 1HWH.
DR MIM; 139240; -
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00333; SOMATOTROPIN_2; 1.
KW Hormone; Placenta; Signal; Glycoprotein; Alternative splicing.
FT SIGNAL 1 26

FT CHAIN 27 217 GROWTH HORMONE VARIANT I.
FT DISULFID 79 191 BY SIMILARITY.
FT DISULFID 208 215 BY SIMILARITY.
FT CARBOHYD 166 166 N-LINKED (GLCNAC...) (POTENTIAL).
FT CONFLICT 35 35 L -> P (IN REF. 3).
FT CONFLICT 109 109 T -> I (IN REF. 2 AND 4).
SQ SEQUENCE 217 AA; 24987 MW; 40FE8620A5138DIC CRC64;

Query Match 95.4%; Score 83; DB 1; Length 217;
Best Local Similarity 93.8%; Pred No. 3.9e-06;
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YLRIVQCRSVEGSGF 16
DB 202 FLRIVQCRSVEGSGF 217
:|||||
:

RESULT 6
PLL_HUMAN STANDARD; PRT; 217 AA.
ID PLL_HUMAN
AC P01243;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-APR-1988 (Rel. 07, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Lactogen precursor (Choriomammotropin) (Chorionic somatomammotropin).
GN CSH1 AND CSH3.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (GENE CSH1).
RX MEDLINE=85030426; PubMed=6208192;
RA Selby M.J., Barta A., Baxter J.D., Bell G.I., Eberhardt N.L.;
RA "Analysis of a major human chorionic somatomammotropin gene. Evidence for two functional promoter elements."; J. Biol. Chem. 259:13131-13138(1984).
RN [2]
RP SEQUENCE FROM N.A. (GENE CSH3).
RX MEDLINE=87161235; PubMed=3030680;
RA Hirt H., Kimelman J., Birnbaum M.J., Chen E.Y., Seeburg P.H., Eberhardt N.L., Barta A.;
RA "The human growth hormone gene locus: structure, evolution, and allelic variations."; DNA 6:59-70(1987).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=83160916; PubMed=6300056;
RA Barrera-Saldana H.A., Seeburg P.H., Saunders G.F.;
RA "Two structurally different genes produce the same secreted human placental lactogen hormone."; J. Biol. Chem. 258:3787-3793(1983).
RN [4]
RP SEQUENCE FROM N.A. (GENES CSH1 AND CSH3).
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gellinas R.E., Seeburg P.H.;
RA "The human growth hormone locus: nucleotide sequence, biology, and evolution."; Genomics 4:479-497(1989).
RN [5]
RP SEQUENCE.
RX MEDLINE=83182010; PubMed=7169009;
RA Seeburg P.H.;
RA "The human growth hormone gene family: nucleotide sequences show recent divergence and predict a new polypeptide hormone."; DNA 1:239-249(1982).
RN [6]
RP SEQUENCE OF 50-217 FROM N.A.
RX MEDLINE=78071761; PubMed=593368;
RA Shine J., Seeburg P.H., Martial J.A., Baxter J.D., Goodman H.M.;
RA "Construction and analysis of recombinant DNA for human chorionic


```

RESULT 8
SOMA_MONDO
ID SOMA_MONDO STANDARD; PRT; 215 AA.
AC Q9GL60;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Monodelphis domestica (Short-tailed grey opossum).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Didelphimorphia; Didelphidae; Monodelphis.
OX NCBI_TaxID=13616;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE= Pituitary;
RA Kacsob B.;
RT "Cloning and characterization of pituitary growth hormone precursor
  cDNA from the marsupial, Monodelphis domestica.";
RL Submitted (OCT-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
  CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
  between the Swiss Institute of Bioinformatics and the EMBL Outstation -
  the European Bioinformatics Institute. There are no restrictions on its
  use by non-profit institutions as long as its content is in no way
  modified and this statement is not removed. Usage by and for commercial
  entities requires a license agreement (See http://www.isb-sib.ch/announce/
  or send an email to license@sib-sib.ch).
CC -----
DR EMBL; AF312023; AG27732.1;
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
DR Hormone; Pituitary; Signal.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 25 POTENTIAL.
FT CHAIN 26 215 SOMATOTROPIN.
SQ SEQUENCE 215 AA; 24384 MW; B704C6214A329010 CRC64;

Query Match 60.3%; Score 52.5; DB 1; Length 215;
Best Local Similarity 58.8%; Pred. No. 0.22;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
Db 199 YLRVMECRFEVSSCAF 215
||||:| | | | |

MEDLINE=92104767; PubMed=1761365;
de Jimenez Bonino M.B., de Nue I.A., Ore R., Sanchez D., Ferrara P.,
Capdevielle J., Cascone O.;
"Primary structure of alpaca growth hormone.";
Int. J. Pept. Protein Res. 38:193-197(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
  CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC PIR; A61584; A61584.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21789 MW; A7C67266A8B96A10 CRC64;

Yudaev N.A., Pankov Y.A., Bulatov A.A., Osipova T.A.;
"Amino acid sequence of seiwhale somatotropin.";
Biochimia 47:1059-1069(1982).
RN [2]
RP PRELIMINARY PARTIAL SEQUENCE.
RA Osipova T.A., Bulatov A.A., Pankov Y.A.;
RT "Structural studies of tryptic peptides from large cyanogen bromide
  fragments of sei whale (Balainoptera borealis) somatotropin.";
RL Bioorg. Khim. 4:1589-1599(1978).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
  CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; P01140; P01140.
DR PIR; JN0387; JN0387.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21835 MW; 09FF6DB14A75D6 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 190;
Best Local Similarity 58.8%; Pred. No. 0.29;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
Db 174 YLRVMECRFEVSSCAF 190
||||:| | | | |

RESULT 10
SOMA_LAMPA
ID SOMA_LAMPA STANDARD; PRT; 190 AA.
AC P37885;
DT 01-OCT-1994 (Rel. 30, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Somatotropin (Growth hormone).
GN GH1.
OS Lama guanicoe pacos (Alpaca).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
OX NCBI_TaxID=30538;
RN [1]
RP SEQUENCE.
RX MEDLINE=92104767; PubMed=1761365;
RA de Jimenez Bonino M.B., de Nue I.A., Ore R., Sanchez D., Ferrara P.,
Capdevielle J., Cascone O.;
"Primary structure of alpaca growth hormone.";
Int. J. Pept. Protein Res. 38:193-197(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
  CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; A61584; A61584.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21789 MW; A7C67266A8B96A10 CRC64;
```

```

CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC PIR: JS0429; JS0429.
DR HSP: P01246; 1BST.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163 BY SIMILARITY.
FT DISULFID 180 188 BY SIMILARITY.
SQ SEQUENCE 190 AA; 21731 MW; 14F37B9C1CB802C CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 190;
Best Local Similarity 58.8%; Pred.No.0.29;
Matches 10; Conservative 3; Mismatches 3; Indels 1;

Qy 1 YLRIVQCRS-VEGSCGF 16
Db 174 YLRVNMKRRFEVSSCAF 190
||||:|||||
||||:|||||

RESULT 13
SOMA_TRIVU STANDARD; PRT; 215 AA.
AC 062754;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 15-JUL-1999 (Rel. 38, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI.
OS Trichosurus vulpecula (Brush-tailed possum).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Mecatheria; Diprotodontia; Phalangeridae; Trichosurus
OX NCBI_TaxID=9337;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=98325478; PubMed=9653023;
RA Saunders M.C., Deakin J., Harrison G.A., Curlewis J.D.;
RT "cDNA cloning of growth hormone from the brushtail possum
RT (Trichosurus vulpecula).";
RL Gen. Comp. Endocrinol. 111:68-75(1998).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a co-
CC between the Swiss Institute of Bioinformatics and the EMBL
CC European Bioinformatics Institute. There are no restrict
CC use by non-profit institutions as long as its content is
CC modified and this statement is not removed. Usage by and for
CC entities requires a license agreement. See http://www.isb-sib.ch
CC or send an email to license@isb-sib.ch.
CC -----
CC EMBL: AF052192; AAC08986.1; -.
DR HSP: P01246; 1BST.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 25 BY SIMILARITY.
FT CHAIN 26 215 SOMATOTROPIN.
FT DISULFID 77 188 BY SIMILARITY.
FT DISULFID 205 213 BY SIMILARITY.
SQ SEQUENCE 215 AA; 24353 MW; F241085B4AF7352D1 CRC64;

```

Query Match 59.2%; Score 51.5; DB 1; Length 215;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
||||:|||||
Db 199 YLRVMKCRREVESCAF 215

RESULT 14
SOMA_CANFA STANDARD; PRT; 216 AA.
AC P33711; Q9TQT6;
DT 01-FEB-1994 (Rel. 28, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1 OR GH.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94266166; PubMed=8206387;
RA Ascacio-Martinez J.A., Barrera-Saldana H.A.;
RT "A dog growth hormone cDNA codes for a mature protein identical to
pig growth hormone.";
RL Gene 143:277-280(1994).
RN [2]
RP SEQUENCE FROM N.A.
RA van Leeuwen I.S., Teske E., van Garderen E., Rutteman G.R., Mol J.A.;
RT "Extr pituitary growth hormone expression in the dog is initiated at
the normal pituitary transcription start site in the mammary gland and
at multiple upstream sites in lymphoid cells.";
RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Mammary gland;
RX MEDLINE=99337113; PubMed=10411306;
RA Lanning van Leeuwen I.S., Oudshoorn M., Mol J.A.;
RT "Canine mammary growth hormone gene transcription initiates at the
pituitary-specific start site in the absence of Pit-1.";
RL Mol. Cell. Endocrinol. 150:121-128(1999).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
between the Swiss Institute of Bioinformatics and the EMBL outstation -
the European Bioinformatics Institute. There are no restrictions on its
use by non-profit institutions as long as its content is in no way
modified and this statement is not removed. Usage by and for commercial
entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
or send an email to license@isb-sib.ch).
CC
DR EMBL; 223057; CA80601.1; -;
DR EMBL; U92533; AAF21502.1; -;
DR EMBL; AF069071; AAD43366.1; -;
DR PIR; S35790; S35790.
DR HSP; P01246; 1BST.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
DR EMBL; 223057; CA80601.1; -;
DR EMBL; U92533; AAF21502.1; -;
DR EMBL; AF069071; AAD43366.1; -;
DR PIR; S35790; S35790.
DR HSP; P01246; 1BST.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.

FT CONFLICT 4 4 S -> G (IN REF. 1).
FT CONFLICT 7 7 N -> T (IN REF. 1).
SQ SEQUENCE 216 AA; 24468 MW; ABAD1DD59F1DAAED CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
||||:|||||
Db 200 YLRVMKCRREVESCAF 216

RESULT 15
SOMA_FELCA STANDARD; PRT; 216 AA.
ID SOMA_FELCA
AC P46404;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 15-JUL-1999 (Rel. 38, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Felis silvestris catus (Cat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
OX NCBI_TaxID=9685;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=96194906; PubMed=8654953;
RA Warren W.C., Bentle K.A., Bogosian G.;
RT "Cloning of the cDNAs coding for cat growth hormone and prolactin.";
RL Gene 168:247-249(1996).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=95369713; PubMed=7642118;
RA Castro-Peralta F., Barrera-Saldana H.A.;
RT "Cloning and sequencing of cDNA encoding the cat growth hormone.";
RL Gene 160:311-312(1995).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
between the Swiss Institute of Bioinformatics and the EMBL outstation -
the European Bioinformatics Institute. There are no restrictions on its
use by non-profit institutions as long as its content is in no way
modified and this statement is not removed. Usage by and for commercial
entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
or send an email to license@isb-sib.ch).
CC
DR EMBL; U25973; AAA67294.1; -;
DR EMBL; U13390; AAA96142.1; -;
DR HSP; P01246; 1BST.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
FT CONFLICT 7 7 N -> T (IN REF. 2).
FT CONFLICT 26 26 T -> A (IN REF. 2).
FT CONFLICT 159 159 G -> A (IN REF. 2).
FT CONFLICT 181 181 L -> P (IN REF. 2).
SQ SEQUENCE 216 AA; 24454 MW; 05820239A7D292C6 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::|| || || |
Db 200 YLRVMKCRREVESCAF 216

RESULT 16
SOMA_HORSE STANDARD; PRT; 216 AA.
AC P01245;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=94266171; PubMed=8206392;
RA Ascacio-Martinez J.A., Barrera-Saidana H.A.;
RT "Sequence of a cDNA encoding horse growth hormone.";
RL Gene 143:299-300(1994).
RN [2]
RP SEQUENCE OF 27-216.
RX MEDLINE=77005410; PubMed=965151;
RA Zakin M.M., Poskus E., Langton A.A., Ferrara P., Santome J.A.,
RA Dellacha J.M., Paladini A.C.;
RT "Primary structure of equine growth hormone.";
RL Int. J. Pept. Protein Res. 8:435-444(1976).
RN [3]
RP PRELIMINARY SEQUENCE OF 27-216.
RX MEDLINE=74020362; PubMed=4747849;
RA Zakin M.M., Poskus E., Dellacha J.M., Paladini A.C., Santome J.A.;
RT "The amino acid sequence of equine growth hormone.";
RL FEBS Lett. 34:353-355(1973).
RN [4]
RP SEQUENCE OF 68-95 AND 183-216.
RA Zakin M.M., Poskus E., Dellacha J.M., Paladini A.C., Santome J.A.;
RT "Amino acid sequences around the cystine residues in equine growth hormone.";
RL FEBS Lett. 25:77-82(1972).
RN [5]
RP SEQUENCE OF 202-216.
RX MEDLINE=68368390; PubMed=4876100;
RA Oliver L., Hartree A.S.;
RT "Amino acid sequences around the cystine residues in horse growth hormone.";
RL Biochem. J. 109:19-24(1968).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).
CC -----
CC EMBL; U02929; AAA21027.1; -.
DR DR PIR; A01514; STHO.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.

Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::|| || || |
Db 200 YLRVMKCRREVESCAF 216

RESULT 17
SOMA_MESAU STANDARD; PRT; 216 AA.
AC P37886;
DT 01-OCT-1994 (Rel. 30, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI OR GH.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Cricetinae;
OX Mesocricetus
OX NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92063850; PubMed=1954881;
RA Southard J.N., Sanchez-Jimenez F., Campbell G.T., Talamantes F.;
RT "Sequence and expression of hamster prolactin and growth hormone messenger RNAs.";
RL Endocrinology 129:2965-2971(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).
CC -----
CC EMBL; S66299; AAB20368.1; -.
DR DR PIR; B49159; B49159.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
SQ SEQUENCE 216 AA; 24690 MW; 3B69CE32AB6F1166 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::|| || || |
Db 200 YLRVMKCRREVESCAF 216

RESULT 17
SOMA_MESAU STANDARD; PRT; 216 AA.
AC P37886;
DT 01-OCT-1994 (Rel. 30, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI OR GH.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Cricetinae;
OX Mesocricetus
OX NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92063850; PubMed=1954881;
RA Southard J.N., Sanchez-Jimenez F., Campbell G.T., Talamantes F.;
RT "Sequence and expression of hamster prolactin and growth hormone messenger RNAs.";
RL Endocrinology 129:2965-2971(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).
CC -----
CC EMBL; S66299; AAB20368.1; -.
DR DR PIR; B49159; B49159.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
SQ SEQUENCE 216 AA; 24690 MW; 3B69CE32AB6F1166 CRC64;

Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
||||:| | | |
Db 200 YLRVMKRRFVSSCAF 216

RESULT 18
SOMA_MOUSE
ID SOMA_MOUSE STANDARD; PRT; 216 AA.
AC P06880;
DT 01-JAN-1988 (Rel. 06, Created)
DT 01-JAN-1988 (Rel. 06, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1 OR GH.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE=85261358; PubMed=2991252;
RX Linzer D.I.H., Talamantes F.;
RT "Nucleotide sequence of mouse prolactin and growth hormone mRNAs and expression of these mRNAs during pregnancy.";
RL J. Biol. Chem. 260:9574-9579(1985).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=FZTDU; TISSUE=Liver;
RX MEDLINE=96194803; PubMed=8647448;
RA Das P., Meyer L., Seyfert H.-M., Brockmann G., Schwerin M.;
RT "Structure of the growth hormone-encoding gene and its promoter in mice.";
RL Gene 169:209-213(1996).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).
CC -----

DR EMBL; X02891; CAA26650.1; -;
DR EMBL; 246663; CAA86658.1; -;
DR PIR; B23911; STMS.
DR HSSP; P01246; 1BST.
DR MGD; MGI:95707; Gh.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
SQ SEQUENCE 216 AA; 24716 MW; 98666A3AE25D65FC CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
||||:| | | |
Db 200 YLRVMKRRFVSSCAF 216

RESULT 19
SOMA_MUSVI
ID SOMA_MUSVI STANDARD; PRT; 216 AA.
AC P19795;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1 OR GH.
OS Mustela vison (American mink).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Mustelidae; Mustelinae;
OC Mustela.
OX NCBI_TaxID=9667;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=91057130; PubMed=2243786;
RA Shoji K., Ohara E., Watahiki M., Yoneda Y.;
RT "Cloning and nucleotide sequence of a cDNA encoding the mink growth hormone.";
RT hormone.";
RL Nucleic Acids Res. 18:6424-6424(1990).
RN [2]
RP SEQUENCE OF 27-216 FROM N.A.
RX MEDLINE=91097549; PubMed=2268323;
RA Harada Y., Tatsumi H., Nakano E., Umezu M.;
RT "Cloning and sequence analysis of mink growth hormone cDNA.";
RL Biochem. Biophys. Res. Commun. 173:1200-1204(1990).
RN [3]
RP SEQUENCE OF 26-216 FROM N.A.
RA Perelygina L.M., Baricheva E.M., Sebeleva T.E., Kokoza V.A.;
RL Submitted (XXI-1992) to the EMBL/GenBank/DBBI databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).
CC -----

DR EMBL; X56120; CAA39585.1; -;
DR EMBL; M62901; AAA30964.1; -;
DR EMBL; X59786; CAA42448.1; -;
DR PIR; A37782; A37782.
DR PIR; S12128; S12128.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
SQ SEQUENCE 216 AA; 24469 MW; A75B96AC94EC257F CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
||||:| | | |
Db 200 YLRVMKRRFVSSCAF 216

```
RESULT 20
SOMA_PIG
ID SOMA_PIG STANDARD; PRT; 216 AA.
AC P01248; Q28958; Q29045;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAR-1989 (Rel. 10, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=88030700; PubMed=3666458;
RA Vize P.D., Wells J.R.E.;
RT "Isolation and characterization of the porcine growth hormone gene.";
RL Gene 55:339-344(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=90212663; PubMed=2182128;
RA Kato Y., Shimokawa N., Kato T., Hirai T., Yoshihama K., Kawai H.,
RA Hattori M.A., Ezashi T., Shimogori Y., Wakabayashi K.;
RT "Porcine growth hormone: molecular cloning of cDNA and expression in
RT bacterial and mammalian cells.";
RL Biochim. Biophys. Acta 1048:290-293(1990).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=91355590; PubMed=2491309;
RA Qi S.Z., Wang X.Z., Zhou S.W., Jia F., Wang H.Y., Xia L.I., Li J.;
RT "Sequencing of porcine growth hormone cDNA.";
RL Chin. J. Biotechnol. 5:35-39(1989).
RN [4]
RP SEQUENCE OF 27-30 AND 149-216.
RX MEDLINE=70293161; PubMed=4918150;
RA Mills J.B., Howard S.C., Scapa S., Wilhelm A.E.;
RT "Cyanogen bromide cleavage and partial amino acid sequence of porcine
RT growth hormone.";
RL J. Biol. Chem. 245:3407-3415(1970).
RN [5]
RP SEQUENCE OF 7-216 FROM N.A.
RX MEDLINE=83209123; PubMed=6303731;
RA Seeburg P.H., Sias S., Adelman J., De Boer H.A., Hayflick J.,
RA Jhurani P., Goeddel D.V., Heyneker H.D.;
RT "Efficient bacterial expression of bovine and porcine growth
RT hormones.";
RL DNA 2:37-45(1983).
RN [6]
RP SEQUENCE OF 97-158 FROM N.A.
RX MEDLINE=94154153; PubMed=1343826;
RA Yang Q., Zhu B., Zhou S., Qi S.;
RT "Cloning and partial sequencing of the porcine growth hormone (pGH)
RT gene from pituitary gland.";
RL Chin. J. Biotechnol. 8:227-233(1992).
RN [7]
RP SEQUENCE OF 5-57 FROM N.A.
RA Jiang Z.H., Rottmann O.J., Pirschner F.;
RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
```

```
CC -----
CC or send an email to license@isb-sib.ch).
CC -----
CC CC
CC EMBL; X53325; CAA37411.1; -
CC EMBL; M17704; AAA31044.1; -
CC EMBL; U19788; AAA73478.1; ALT_INIT.
CC EMBL; M27326; AAA31045.1; -
CC EMBL; S72386; AAB29947.2; -
CC EMBL; U73464; AAB17619.1; -
CC PIR; JN0015; STPG
CC PIR; A01516; A01516.
CC HSSP; P01246; IBST.
CC InterPro; IPR001400; SOMATOTROPIN.
CC Pfam; PF00103; hormone; 1.
CC PRINTS; PR00836; SOMATOTROPIN.
CC PROSITE; PS00266; SOMATOTROPIN_1; 1.
CC PROSITE; PS00338; SOMATOTROPIN_2; 1.
CC Hormone; Pituitary; Signal.
CC SIGNAL 1 26
CC CHAIN 27 216 SOMATOTROPIN.
CC DISULFID 78 189 BY SIMILARITY.
CC DISULFID 206 214 BY SIMILARITY.
CC CONFLICT 9 9 A -> V (IN REF. 5).
CC CONFLICT 22 22 R -> Q (IN REF. 5).
CC CONFLICT 78 78 C -> F (IN REF. 3).
CC CONFLICT 116 116 Q -> T (IN REF. 3).
CC CONFLICT 195 195 H -> N (IN REF. 4).
CC CONFLICT 203 203 V -> L (IN REF. 3).
CC CONFLICT 206 206 C -> S (IN REF. 3).
CC SEQUENCE 216 AA; 24429 MW; 0216931D56BE76D14 CRC64;
SQ
Query Match 59.2%; Score 51.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;
QY 1 YLRIVOCRS-VEGSCGF 16
DB 200 YLRVVKRRFVSSCAF 216
||||:| | | | |
RESULT 21
SOMA_GALSE
ID SOMA_GALSE STANDARD; PRT; 217 AA.
AC Q9GKAI;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Galago senegalensis (Northern lesser bushbaby).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Strepsirhini; Galagonidae; Galago.
OX NCBI_TaxID=9465;
RN [1]
RP SEQUENCE FROM N.A.
RX PubMed=111411192;
RA Adkins R.M., Nekrutenko A., Li W.-H.;
RT "Bushbaby growth hormone is much more similar to nonprimate growth
RT hormones than to rhesus monkey and human growth hormones.";
RL Mol. Biol. Evol. 18:55-61(2001).
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
```

DR EMBL; AF292938; AAG44952.1; -.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
DR Hormone: Pituitary; Signal.
KW SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 217 SOMATOTROPIN.
FT DISULFID 79 190 BY SIMILARITY.
FT DISULFID 207 215 BY SIMILARITY.
SQ SEQUENCE 217 AA; 24481 MW; 2FB61CD31136F005 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 217;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::||| || || |
Db 201 YLRVMKRRFVESSCAF 217

RESULT 22
SOMA_NYCPY STANDARD; PRT; 217 AA.
AC Q9GMB2;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.

OS Nycticebus pygmaeus (Pygmy slow loris).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Strepsirhini; Loridae; Nycticebus.
OX NCBI_TaxID=101278;

RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA "Cloning and characterisation of the gene encoding slow loris growth hormone."
RT hormone."
RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.

CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).

DR EMBL; AJ297562; CAC03504.1; -.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
DR Hormone: Pituitary; Signal.
KW SIGNAL 1 27 BY SIMILARITY.
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190 BY SIMILARITY.
FT DISULFID 207 215 BY SIMILARITY.
SQ SEQUENCE 217 AA; 24395 MW; 7FE90D77E59085F6 CRC64;

Query Match 59.2%; Score 51.5; DB 1; Length 217;
Best Local Similarity 58.8%; Pred. No. 0.32;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::||| || || |
Db 201 YLRVMKRRFVESSCAF 217

RESULT 23
SOMA_RABIT STANDARD; PRT; 216 AA.
AC P46407;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.

OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;

RN [1]

RP SEQUENCE FROM N.A.

RC STRAIN=NEW ZEALAND WHITE;

RX MEDLINE=96011643; PubMed=7590276;

RA Wallis O.C.; Wallis M.;

RT "Cloning and characterisation of the rabbit growth hormone-encoding gene."

RL Gene 163:253-256(1995).

CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH CONTROL.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).

CC EMBL; Z38127; CAA86287.1; -.

DR HSP; P01246; IBST.

DR InterPro: IPR001400; SOMATOTROPIN.

DR Pfam: PF00103; hormone; 1.

DR PRINTS: PR00836; SOMATOTROPIN.

DR PROSITE: PS00266; SOMATOTROPIN_1; 1.

DR PROSITE: PS00338; SOMATOTROPIN_2; 1.

KW Hormone; Pituitary; Signal.

FT SIGNAL 1 26 POTENTIAL.

FT CHAIN 27 216 SOMATOTROPIN.

FT DISULFID 78 189 BY SIMILARITY.

FT DISULFID 206 214 BY SIMILARITY.

SQ SEQUENCE 216 AA; 24433 MW; 6EC19748199F9D75 CRC64;

Query Match 55.7%; Score 48.5; DB 1; Length 216;
Best Local Similarity 58.8%; Pred. No. 0.94;
Matches 10; Conservative 3; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQCRS-VEGSCGF 16
|||::||| || || |
Db 200 YLRVMKRRFVESSCVF 216

RESULT 24
SOMA_RAT STANDARD; PRT; 216 AA.
AC P01244;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1 OR GH.

OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=82059526; PubMed=6272224;
RA Page G.S., Smith S., Goodman H.M.;
RT "DNA sequence of the rat growth hormone gene: location of the 5'
terminus of the growth hormone mRNA and identification of an internal
transposon-like element.";
RT Nucleic Acids Res. 9:2087-2104(1981).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=78071760; PubMed=339105;
RA Seeburg P.H., Shine J., Martial J.A., Baxter J.D., Goodman H.M.;
RT "Nucleotide sequence and amplification in bacteria of structural gene
for rat growth hormone.";
RL Nature 270:486-494(1977).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=82060155; PubMed=6946433;
RA Barta A., Richards R.I., Baxter J.D., Shine J.;
RT "Primary structure and evolution of rat growth hormone gene.";
RL Proc. Natl. Acad. Sci. U.S.A. 78:4867-4871(1981).
RN [4]
RP SEQUENCE FROM N.A.
RC STRAIN=SPRAGUE-DAWLEY;
RX MEDLINE=96056604; PubMed=8521139;
RA Rohn W.M., Weigant D.A.;
RT "Cloning and nucleotide sequencing of rat lymphocyte growth hormone
cDNA.";
RL Neuroimmunomodulation 2:108-114(1995).
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CONTROL.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
between the Swiss Institute of Bioinformatics and the EMBL Outstation -
the European Bioinformatics Institute. There are no restrictions on its
use by non-profit institutions as long as its content is in no way
modified and this statement is not removed. Usage by and for commercial
entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
or send an email to license@sib-sib.ch).
CC -----
DR EMBL; V01237; CAA24547.1; -;
DR EMBL; V01238; CAA24548.1; -;
DR EMBL; V01239; CAA24549.1; -;
DR EMBL; U62779; AAB04025.1; -;
DR PIR; A01513; STRT.
DR HSSP; P01246; LBST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
FT CONFLICT 27 27 F -> L (IN REF. 2 AND 4).
SQ SEQUENCE 216 AA; 24656 MW; CABF49DC0B2A226C CRC64;

Query Match 54.6%; Score 47.5; DB 1; Length 216;
Best Local Similarity 52.9%; Pred. No. 1.3;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;
QY 1 YLRIVQCRS-VEGSCGF 16
| | | | | | | | | |

Db 200 YLRVMKRRFAESSCAF 216
RESULT 25
SONA_BOVIN
ID SOMA_BOVIN STANDARD; PRT; 217 AA.
AC P01246; Q28117;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1 OR GH.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=80249494; PubMed=6893197;
RA Miller W.L., Martial J.A., Baxter J.D.;
RT "Molecular cloning of DNA complementary to bovine growth hormone
mRNA.";
RL J. Biol. Chem. 255:7521-7524(1980).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=83209123; PubMed=6303731;
RA Seeburg P.H., Sids S., Adelman J., de Boer H.A., Hayflick J.,
RA Jhurani P., Goeddel D.V., Heyneker H.L.;
RT "Efficient bacterial expression of bovine and porcine growth
hormones.";
RL DNA 2:37-45(1983).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=84058733; PubMed=6357899;
RA Gordon D.F., Quick D.P., Erwin C.R., Donelson J.E., Maurer R.A.;
RT "Nucleotide sequence of the bovine growth hormone chromosomal gene.";
RL Mol. Cell. Endocrinol. 33:81-95(1983).
RN [4]
RP SEQUENCE FROM N.A.
RA Rubtsov P.M., Chernov B.K., Gorbulev V.G., Parsadanyan A.S.,
RA Sverdlova P.S., Chupueva V.V., Golova Y.B., Batchikova N.V.,
RA Zhvirbils G.S., Skryabin K.G., Baev A.A.;
RT "Genetic engineering of peptide hormones.";
RL Mol. Biol. (Mosk) 19:226-235(1985).
RN [5]
RP SEQUENCE FROM N.A.
RC STRAIN=NELORE; TISSUE=Pituitary;
RA Mauro S.M.Z., Ferro M.I.T., Macari M., Ferro J.A.;
RT "The complete sequence of a cDNA encoding the bovine growth hormone.";
RL Submitted (NOV-1997) to the EMBL/GenBank/DBJ databases.
RN [6]
RP SEQUENCE.
RX MEDLINE=74028758; PubMed=4584625;
RA Wallis M.;
RT "The primary structure of bovine growth hormone.";
RL FEBS Lett. 35:11-14(1973).
RN [7]
RP SEQUENCE OF 91-96 AND 104-121.
RX MEDLINE=74146429; PubMed=4856718;
RA Graf L., Li C.H.;
RT "On the primary structure of pituitary bovine growth hormone.";
RL Biochem. Biophys. Res. Commun. 56:168-176(1974).
RN [8]
RP SEQUENCE.
RX MEDLINE=73249153; PubMed=4580883;
RA Santome J.A., Deilacha J.M., Paladini A.C., Pena C., Biscoglio M.J.,
RA Daurat S.T., Poskus E., Wolfenstein C.E.M.;
RT "Primary structure of bovine growth hormone.";
RL Eur. J. Biochem. 37:164-170(1973).
RN [9]
RP SEQUENCE OF 27-49 FROM N.A.

```

RX MEDLINE=86004063; PubMed=3899556;
RA George H.J., L'Italien J.J., Pilacinski W.P., Glassman D.L.,
RA Krzyzek R.A.;
RT "High-level expression in Escherichia coli of biologically active
RL bovine growth hormone.";
RL DNA 4:273-281(1985).
[10]
RN EVIDENCE FOR TWO ALLELIC CHAINS.
RP MEDLINE=71207803; PubMed=5579941;
RA Seavey B.K., Singh R.N.P., Lewis U.J., Geschwind I.I.;
RT "Bovine growth hormone: evidence for two allelic forms.";
RL Biochem. Biophys. Res. Commun. 43:189-195(1971).
[11]
RN CHARACTERIZATION.
RP MEDLINE=75133461; PubMed=1123321;
RA Yamasaki N., Shimanaka J., Sonnenburg M.;
RT "Studies on the common active site of growth hormone. Revision of the
RL amino acid sequence of an active fragment of bovine growth hormone.";
RL J. Biol. Chem. 250:2510-2514(1975).
[12]
RN 3D-STRUCTURE MODELING.
RP MEDLINE=91214979; PubMed=2021631;
RA Caracci L., Chou K.-C., Maggiora G.M.;
RT "A heuristic approach to predicting the tertiary structure of bovine
RL somatotropin.";
RL Biochemistry 30:4389-4398(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; J00008; AAA30542.1; -
DR EMBL; V00111; CAA23445.1; -
DR EMBL; M27325; AAA30543.1; -
DR EMBL; M57764; AAA30544.1; -
DR EMBL; M23813; AAA30556.1; -
DR EMBL; AF034386; AAB92549.1; -
DR EMBL; M11558; AAA30545.1; -
DR EMBL; A08489; CAA00787.1; -
DR PIR; A01515; STBO.
DR PDB; 1BST; 15-OCT-94.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN.1; 1.
DR PROSITE; PS00338; SOMATOTROPIN.2; 1.
KW Hormone; Pituitary; Signal; Polymorphism; 3D-structure.
FT SIGNAL 1 27
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190
FT DISULFID 207 215
FT VARIANT 153 153
FT VARIANT 95 95
FT CONFLICT 110 121 QWLGLPQLFLR -> SOWLQPGFLR (IN REF. 8).
FT CONFLICT 194 194 D -> N (IN REF. 8).
FT CONFLICT 194 194 D -> N (IN REF. 8).
SQ SEQUENCE 217 AA; 24558 MW; 99ED8D01B852EF89 CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
Best Local Similarity 52.9%; Pred. No. 1.9;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSCGF 16
Db |||::||| | | | |
201 YLRVMKRRRFGASCAF 217

RX MEDLINE=86004063; PubMed=3899556;
RA George H.J., L'Italien J.J., Pilacinski W.P., Glassman D.L.,
RA Krzyzek R.A.;
RT "High-level expression in Escherichia coli of biologically active
RL bovine growth hormone.";
RL DNA 4:273-281(1985).
[10]
RN EVIDENCE FOR TWO ALLELIC CHAINS.
RP MEDLINE=71207803; PubMed=5579941;
RA Seavey B.K., Singh R.N.P., Lewis U.J., Geschwind I.I.;
RT "Bovine growth hormone: evidence for two allelic forms.";
RL Biochem. Biophys. Res. Commun. 43:189-195(1971).
[11]
RN CHARACTERIZATION.
RP MEDLINE=75133461; PubMed=1123321;
RA Yamasaki N., Shimanaka J., Sonnenburg M.;
RT "Studies on the common active site of growth hormone. Revision of the
RL amino acid sequence of an active fragment of bovine growth hormone.";
RL J. Biol. Chem. 250:2510-2514(1975).
[12]
RN 3D-STRUCTURE MODELING.
RP MEDLINE=91214979; PubMed=2021631;
RA Caracci L., Chou K.-C., Maggiora G.M.;
RT "A heuristic approach to predicting the tertiary structure of bovine
RL somatotropin.";
RL Biochemistry 30:4389-4398(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; J00008; AAA30542.1; -
DR EMBL; V00111; CAA23445.1; -
DR EMBL; M27325; AAA30543.1; -
DR EMBL; M57764; AAA30544.1; -
DR EMBL; M23813; AAA30556.1; -
DR EMBL; AF034386; AAB92549.1; -
DR EMBL; M11558; AAA30545.1; -
DR EMBL; A08489; CAA00787.1; -
DR PIR; A01515; STBO.
DR PDB; 1BST; 15-OCT-94.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN.1; 1.
DR PROSITE; PS00338; SOMATOTROPIN.2; 1.
KW Hormone; Pituitary; Signal; Polymorphism; 3D-structure.
FT SIGNAL 1 27
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190
FT DISULFID 207 215
FT VARIANT 153 153
FT VARIANT 95 95
FT CONFLICT 110 121 QWLGLPQLFLR -> SOWLQPGFLR (IN REF. 8).
FT CONFLICT 194 194 D -> N (IN REF. 8).
FT CONFLICT 194 194 D -> N (IN REF. 8).
SQ SEQUENCE 217 AA; 24558 MW; 99ED8D01B852EF89 CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
Best Local Similarity 52.9%; Pred. No. 1.9;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSCGF 16
Db |||::||| | | | |
201 YLRVMKRRRFGASCAF 217
```

```

RESULT 26
SOMA_BUBBU
ID SOMA_BUBBU STANDARD; PRT; 217 AA.
AC O18938;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1 OR GH
OS Bubalus bubalis (Domestic water buffalo).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bubalus.
OX NCBI_TaxID=89462;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Blood;
RA Tiwari G., Garg L.C.;
RT "Cloning and characterization of growth hormone encoding gene in
RL Bubalus bubalis.";
RL Submitted (SEP-1998) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; AJ011533; CAA09679.1; -
DR EMBL; AJ011514; CAA09668.1; -
DR EMBL; AJ011513; CAA09667.1; -
DR EMBL; AJ000549; CAA04181.1; -
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN.1; 1.
DR PROSITE; PS00338; SOMATOTROPIN.2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 27 BY SIMILARITY.
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190 BY SIMILARITY.
FT DISULFID 207 215 BY SIMILARITY.
SQ SEQUENCE 217 AA; 24618 MW; 453547080E9B54EB CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
Best Local Similarity 52.9%; Pred. No. 1.9;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSCGF 16
Db |||::||| | | | |
201 YLRVMKRRRFGASCAF 217

RESULT 27
SOMA_CEREL
ID SOMA_CEREL STANDARD; PRT; 217 AA.
AC P56437;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE Somatotropin precursor (growth hormone).
GN GH1.
OS Cervus elaphus (Red deer).
```

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervioidea;
 OC Cervidae; Cervinae; Cervus.
 OX NCBI_TaxID=9860;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Tongue;
 RA Lioupis A., Wallis O.C., Wallis M.;
 RL Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
 CC CONTROL.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
 CC -----
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
 CC the European Bioinformatics Institute. There are no restrictions on its
 CC use by non-profit institutions as long as its content is in no way
 CC modified and this statement is not removed. Usage by and for commercial
 CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
 CC or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL: Y12578; CAAT73158.1; -;
 DR HSSP: P01246; IBST.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Pituitary; Signal.
 FT SIGNAL 1 27 BY SIMILARITY.
 FT CHAIN 28 217 SOMATOTROPIN.
 FT DISULFID 79 190 BY SIMILARITY.
 FT DISULFID 207 215 BY SIMILARITY.
 SQ SEQUENCE 217 AA; 24558 MW; 6F22D5241468B7AD CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
 Best Local Similarity 52.9%; Pred. No. 1.9;
 Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 YLRIVQCRSV-EGSCGF 16
 |||::||| | | |
 Db 201 YLRVMKCRFEASCAF 217

RESULT 28
 SOMA_SHEEP STANDARD; PRT; 217 AA.
 AC P01247; P07289; Q29404;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-NOV-1988 (Rel. 09, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Somatotropin precursor (Growth hormone).
 GN GH1.
 OS Ovis aries (Sheep),
 OS Capra hircus (Goat), and
 OS Bubalus bubalis (Domestic water buffalo).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
 OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940, 9925, 89462;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Sheep;
 RX MEDLINE=89016563; PubMed=3174441;
 RA Orian J.M., O'Mahoney J.V., Brandon M.R.;
 RT "Cloning and sequencing of the ovine growth hormone gene.";
 RL Nucleic Acids Res. 16:9046-9046(1988).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Sheep;
 RX MEDLINE=89287334; PubMed=2660907;

RA Warwick J.M., Wallis O.C., Wallis M.;
 RT "Cloning, sequence and expression in Escherichia coli of cDNA for
 RT ovine pregrowth hormone.";
 RL Biochim. Biophys. Acta 1008:247-250(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Sheep;
 RX MEDLINE=88268619; PubMed=3453044;
 RA Byrne C.R., Wilson B.W., Ward K.A.;
 RT "The isolation and characterisation of the ovine growth hormone
 RT gene.";
 RL Aust. J. Biol. Sci. 40:459-468(1987).
 RN [4]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Sheep; TISSUE=Pituitary;
 RX MEDLINE=93093692; PubMed=1459643;
 RA Guron C., Rao K.B., Jain S.K., Totey S.M., Talwar G.P.;
 RT "Cloning and nucleotide sequencing of sheep growth hormone cDNA.";
 RL Indian J. Exp. Biol. 30:659-663(1992).
 RN [5]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Sheep; STRAIN=AWASSI;
 RA Ofir R., Gootwine E.;
 RL Submitted (JUL-1997) to the EMBL/GenBank/DBJ databases.
 RN [6]
 RP SEQUENCE OF 28-217.
 RC SPECIES=Sheep;
 RX MEDLINE=73220070; PubMed=4736985;
 RA Li C.H., Gordon D., Knorr J.;
 RT "The primary structure of sheep pituitary growth hormone.";
 RL Arch. Biochem. Biophys. 156:493-508(1973).
 RN [7]
 RP SEQUENCE OF 150-217.
 RC SPECIES=Sheep;
 RX MEDLINE=72134042; PubMed=5062423;
 RA Bellair J.T.;
 RT "Ovine growth hormone. Sequence of the C-terminal 68 amino acids.";
 RL Biochem. Biophys. Res. Commun. 46:1128-1134(1972).
 RN [8]
 RP SEQUENCE FROM N.A.
 RC SPECIES=C.hircus; STRAIN=SAANEN;
 RX MEDLINE=88137627; PubMed=3342884;
 RA Yamano Y., Oyabayashi K., Okuno M., Yato M., Kioka N., Manabe E.,
 RA Hashi H., Sakai H., Komano T., Utsumi K., Iritani A.;
 RT "Cloning and sequencing of cDNA that encodes goat growth hormone.";
 RL FEBS Lett. 228:301-304(1988).
 RN [9]
 RP SEQUENCE FROM N.A.
 RC SPECIES=C.hircus;
 RX MEDLINE=88233947; PubMed=3375065;
 RA Yato M., Yamano Y., Oyabayashi K., Okuno M., Kioka N., Manabe E.,
 RA Hashi H., Sakai H., Komano T., Utsumi K., Iritani A.;
 RT "Nucleotide sequence of the growth hormone gene cDNA from goat Capra
 RT hircus L. (Tokara).";
 RL Nucleic Acids Res. 16:3578-3578(1988).
 RN [10]
 RP SEQUENCE FROM N.A.
 RC SPECIES=C.hircus;
 RA Kioka N., Manabe E., Abe M., Hashi H., Yato M., Okuno M., Yamano Y.,
 RA Sakai H., Komano T., Utsumi K., Iritani A.;
 RT "Cloning and sequencing of goat growth hormone gene.";
 RL Agric. Biol. Chem. 53:1583-1587(1989).
 RN [11]
 RP SEQUENCE FROM N.A.
 RC SPECIES=B.dubalis;
 RA Verma S., Garg L.C.;
 RL Submitted (MAR-1993) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
 CC CONTROL.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
 CC -----
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration

CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

DR EMBL; X12546; CAA31063.1; -;
DR EMBL; X15976; CAA34098.1; -;
DR EMBL; S50877; AAB24467.2; -;
DR EMBL; M37310; AAA31527.1; -;
DR EMBL; AF002113; AAB63273.1; -;
DR EMBL; AF002111; AAB63273.1; JOINED.
DR EMBL; AF002112; AAB63273.1; JOINED.
DR EMBL; Y00767; CAA68736.1; -;
DR EMBL; X07035; CAA30083.1; -;
DR EMBL; D00476; BAA00368.1; -;
DR EMBL; X72947; CAA51450.1; -;
DR EMBL; A09118; CAA00828.1; -;
DR PIR; S02225; STSH.
DR PIR; S00321; STGT.
DR PIR; S00681; S00681.
DR PIR; JU0031; JU0031.
DR PIR; S32682; S32682.
DR HSP; P01246; IBST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 27
FT CHAIN 28 217 SOMATOTROPIN.
FT DISULFID 79 190
FT DISULFID 207 215
FT CONFLICT 89 89 G -> S (IN REF. 3).
FT CONFLICT 125 125 N -> D (IN REF. 6).
FT CONFLICT 134 134 R -> L (IN REF. 3).
FT CONFLICT 173 173 T -> R (IN REF. 4).
SQ SEQUENCE 217 AA; 24630 MW; 77EC37A102584429 CRC64;

Query Match 53.4%; Score 46.5; DB 1; Length 217;
Best Local Similarity 52.9%; Pred. No. 1.9;
Matches 9; Conservative 3; Mismatches 4; Indels 1; Gaps 1;
QY 1 YLRIVQCRSV-EGSCGF 16
DB 201 YLRVVKCRFRFGASCAF 217
||||:| | | | |

RESULT 29
SOMA_RANCA
ID SOMA_RANCA STANDARD; PRT; 215 AA.
AC P10813;
DT 01-JUL-1989 (Rel. 11, Created)
DT 01-FEB-1995 (Rel. 31, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH.
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Rana.
OX NCBI_TaxID=8400;
RN [1]
RP Rana catesbeiana (Bull frog).
RC TISSUE=Pituitary;
RX MEDLINE=88252154; PubMed=3260110;
RA Pan F.-M., Chang W.-C.;
RT "Cloning and sequencing of bullfrog growth hormone complementary
RT DNA.";
RL Biochim. Biophys. Acta 950:238-242(1988).
RN [2]

RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RX MEDLINE=93119453; PubMed=1476615;
RA Takahashi N., Kikuyama S., Gen K., Maruyama O., Kato Y.;
RT "Cloning of a bullfrog growth hormone cDNA: expression of growth
RT hormone mRNA in larval and adult bullfrog pituitaries.";
J. Mol. Endocrinol. 9:283-289(1992).
RN [3]
RP SEQUENCE OF 26-215.
RC TISSUE=Pituitary;
RX MEDLINE=91316122; PubMed=1859828;
RA Kobayashi T., Yasuda A., Yamaguchi K., Kawauchi H., Kikuyama S.;
RT "The complete amino acid sequence of growth hormone of the bullfrog
RT (Rana catesbeiana).";
Biochim. Biophys. Acta 1078:383-387(1991).
RL Biochim. Biophys. Acta 1078:383-387(1991).
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- DEVELOPMENTAL STAGE: LEVELS INCREASE AS METAMORPHOSIS PROGRESSES,
CC REACH MAXIMA IN JUVENILES AND DECREASE AS ADULTHOOD APPROACHES.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.

CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

DR EMBL; X12520; CAA31038.1; -;
DR EMBL; S52027; AAB24792.1; -;
DR PIR; JS0037; JS0037.
DR HSP; P01241; LHUM.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 25
FT CHAIN 26 215 SOMATOTROPIN.
FT DISULFID 77 188 BY SIMILARITY.
FT DISULFID 205 213 BY SIMILARITY.
FT CONFLICT 68 73 SNKHSY -> KOTLLI (IN REF. 1).
FT CONFLICT 98 98 D -> E (IN REF. 3).
FT CONFLICT 105 105 T -> L (IN REF. 3).
FT CONFLICT 112 112 T -> N (IN REF. 3).
SQ SEQUENCE 215 AA; 24975 MW; 3C08D5840EFF102A CRC64;

Query Match 50.0%; Score 43.5; DB 1; Length 215;
Best Local Similarity 47.1%; Pred. No. 5.6;
Matches 8; Conservative 5; Mismatches 3; Indels 1; Gaps 1;
QY 1 YLRIVQCRS-VEGSCGF 16
DB 199 YLRVVKCRFRFVESNCTF 215
|||:| | | | |

RESULT 30
CADH_MOUSE
ID CADH_MOUSE STANDARD; PRT; 827 AA.
AC Q9RL00;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Cadherin-17 precursor (Liver-intestine-cadherin) (LI-cadherin) (BILL-
DE cadherin) (P130).
GN CDH17.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
RN [2]


```

352 388  EGF-LIKE 9,  CALCIUM-BINDING (POTENTIAL).
353 427  EGF-LIKE 10.
354 470  EGF-LIKE 11,  CALCIUM-BINDING (POTENTIAL).
355 508  EGF-LIKE 12,  CALCIUM-BINDING (POTENTIAL).
356 546  EGF-LIKE 13,  CALCIUM-BINDING (POTENTIAL).
357 584  EGF-LIKE 14,  CALCIUM-BINDING (POTENTIAL).
358 622  EGF-LIKE 15,  CALCIUM-BINDING (POTENTIAL).
359 660  EGF-LIKE 16.
360 698  EGF-LIKE 17.
361 736  EGF-LIKE 18.
362 774  EGF-LIKE 19.
363 812  EGF-LIKE 20.
364 850  EGF-LIKE 21.
365 888  EGF-LIKE 22.
366 926  EGF-LIKE 23.
367 964  EGF-LIKE 24.
368 1000  EGF-LIKE 25.
369 1038  EGF-LIKE 26.
370 1076  EGF-LIKE 27.
371 1114  EGF-LIKE 28.
372 1152  EGF-LIKE 29.
373 1190  LIN/NOTCH 1.
374 1228  LIN/NOTCH 2.
375 1266  LIN/NOTCH 3.
376 1304  ANK 1.
377 1342  ANK 2.
378 1380  ANK 3.
379 1418  ANK 4.
380 1456  ANK 5.
381 1494  BY SIMILARITY.
382 1532  BY SIMILARITY.
383 1570  BY SIMILARITY.
384 1608  BY SIMILARITY.
385 1646  BY SIMILARITY.
386 1684  BY SIMILARITY.
387 1722  BY SIMILARITY.
388 1760  BY SIMILARITY.
389 1798  BY SIMILARITY.
390 1836  BY SIMILARITY.
391 1874  BY SIMILARITY.
392 1912  BY SIMILARITY.
393 1950  BY SIMILARITY.
394 1988  BY SIMILARITY.
395 2026  BY SIMILARITY.
396 2064  BY SIMILARITY.
397 2102  BY SIMILARITY.
398 2140  BY SIMILARITY.
399 2178  BY SIMILARITY.
400 2216  BY SIMILARITY.
401 2254  BY SIMILARITY.
402 2292  BY SIMILARITY.
403 2330  BY SIMILARITY.
404 2368  BY SIMILARITY.
405 2406  BY SIMILARITY.
406 2444  BY SIMILARITY.
407 2482  BY SIMILARITY.
408 2520  BY SIMILARITY.
409 2558  BY SIMILARITY.
410 2596  BY SIMILARITY.
411 2634  BY SIMILARITY.
412 2672  BY SIMILARITY.
413 2710  BY SIMILARITY.
414 2748  BY SIMILARITY.
415 2786  BY SIMILARITY.
416 2824  BY SIMILARITY.
417 2862  BY SIMILARITY.
418 2900  BY SIMILARITY.
419 2938  BY SIMILARITY.
420 2976  BY SIMILARITY.
421 3014  BY SIMILARITY.
422 3052  BY SIMILARITY.
423 3090  BY SIMILARITY.
424 3128  BY SIMILARITY.
425 3166  BY SIMILARITY.
426 3204  BY SIMILARITY.
427 3242  BY SIMILARITY.
428 3280  BY SIMILARITY.
429 3318  BY SIMILARITY.
430 3356  BY SIMILARITY.
431 3394  BY SIMILARITY.
432 3432  BY SIMILARITY.
433 3470  BY SIMILARITY.
434 3508  BY SIMILARITY.
435 3546  BY SIMILARITY.
436 3584  BY SIMILARITY.
437 3622  BY SIMILARITY.
438 3660  BY SIMILARITY.
439 3698  BY SIMILARITY.
440 3736  BY SIMILARITY.
441 3774  BY SIMILARITY.
442 3812  BY SIMILARITY.
443 3850  BY SIMILARITY.
444 3888  BY SIMILARITY.
445 3926  BY SIMILARITY.
446 3964  BY SIMILARITY.
447 4002  BY SIMILARITY.
448 4040  BY SIMILARITY.
449 4078  BY SIMILARITY.
450 4116  BY SIMILARITY.
451 4154  BY SIMILARITY.
452 4192  BY SIMILARITY.
453 4230  BY SIMILARITY.
454 4268  BY SIMILARITY.
455 4306  BY SIMILARITY.
456 4344  BY SIMILARITY.
457 4382  BY SIMILARITY.
458 4420  BY SIMILARITY.
459 4458  BY SIMILARITY.
460 4496  BY SIMILARITY.
461 4534  BY SIMILARITY.
462 4572  BY SIMILARITY.
463 4610  BY SIMILARITY.
464 4648  BY SIMILARITY.
465 4686  BY SIMILARITY.
466 4724  BY SIMILARITY.
467 4762  BY SIMILARITY.
468 4800  BY SIMILARITY.
469 4838  BY SIMILARITY.
470 4876  BY SIMILARITY.
471 4914  BY SIMILARITY.
472 4952  BY SIMILARITY.
473 4990  BY SIMILARITY.
474 5028  BY SIMILARITY.
475 5066  BY SIMILARITY.
476 5104  BY SIMILARITY.
477 5142  BY SIMILARITY.
478 5180  BY SIMILARITY.
479 5218  BY SIMILARITY.
480 5256  BY SIMILARITY.
481 5294  BY SIMILARITY.
482 5332  BY SIMILARITY.
483 5370  BY SIMILARITY.
484 5408  BY SIMILARITY.
485 5446  BY SIMILARITY.
486 5484  BY SIMILARITY.
487 5522  BY SIMILARITY.
488 5560  BY SIMILARITY.
489 5598  BY SIMILARITY.
490 5636  BY SIMILARITY.
491 5674  BY SIMILARITY.
492 5712  BY SIMILARITY.
493 5750  BY SIMILARITY.
494 5788  BY SIMILARITY.
495 5826  BY SIMILARITY.
496 5864  BY SIMILARITY.
497 5902  BY SIMILARITY.
498 5940  BY SIMILARITY.
499 5978  BY SIMILARITY.
500 6016  BY SIMILARITY.
501 6054  BY SIMILARITY.
502 6092  BY SIMILARITY.
503 6130  BY SIMILARITY.
504 6168  BY SIMILARITY.
505 6206  BY SIMILARITY.
506 6244  BY SIMILARITY.
507 6282  BY SIMILARITY.
508 6320  BY SIMILARITY.
509 6358  BY SIMILARITY.
510 6396  BY SIMILARITY.
511 6434  BY SIMILARITY.
512 6472  BY SIMILARITY.
513 6510  BY SIMILARITY.
514 6548  BY SIMILARITY.
515 6586  BY SIMILARITY.
516 6624  BY SIMILARITY.
517 6662  BY SIMILARITY.
518 6700  BY SIMILARITY.
519 6738  BY SIMILARITY.
520 6776  BY SIMILARITY.
521 6814  BY SIMILARITY.
522 6852  BY SIMILARITY.
523 6890  BY SIMILARITY.
524 6928  BY SIMILARITY.
525 6966  BY SIMILARITY.
526 7004  BY SIMILARITY.
527 7042  BY SIMILARITY.
528 7080  BY SIMILARITY.
529 7118  BY SIMILARITY.
530 7156  BY SIMILARITY.
531 7194  BY SIMILARITY.
532 7232  BY SIMILARITY.
533 7270  BY SIMILARITY.
534 7308  BY SIMILARITY.
535 7346  BY SIMILARITY.
536 7384  BY SIMILARITY.
537 7422  BY SIMILARITY.
538 7460  BY SIMILARITY.
539 7498  BY SIMILARITY.
540 7536  BY SIMILARITY.
541 7574  BY SIMILARITY.
542 7612  BY SIMILARITY.
543 7650  BY SIMILARITY.
544 7688  BY SIMILARITY.
545 7726  BY SIMILARITY.
546 7764  BY SIMILARITY.
547 7802  BY SIMILARITY.
548 7840  BY SIMILARITY.
549 7878  BY SIMILARITY.
550 7916  BY SIMILARITY.
551 7954  BY SIMILARITY.
552 7992  BY SIMILARITY.
553 8030  BY SIMILARITY.
554 8068  BY SIMILARITY.
555 8106  BY SIMILARITY.
556 8144  BY SIMILARITY.
557 8182  BY SIMILARITY.
558 8220  BY SIMILARITY.
559 8258  BY SIMILARITY.
560 8296  BY SIMILARITY.
561 8334  BY SIMILARITY.
562 8372  BY SIMILARITY.
563 8410  BY SIMILARITY.
564 8448  BY SIMILARITY.
565 8486  BY SIMILARITY.
566 8524  BY SIMILARITY.
567 8562  BY SIMILARITY.
568 8600  BY SIMILARITY.
569 8638  BY SIMILARITY.
570 8676  BY SIMILARITY.
571 8714  BY SIMILARITY.
572 8752  BY SIMILARITY.
573 8790  BY SIMILARITY.
574 8828  BY SIMILARITY.
575 8866  BY SIMILARITY.
576 8904  BY SIMILARITY.
577 8942  BY SIMILARITY.
578 8980  BY SIMILARITY.
579 9018  BY SIMILARITY.
580 9056  BY SIMILARITY.
581 9094  BY SIMILARITY.
582 9132  BY SIMILARITY.
583 9170  BY SIMILARITY.
584 9208  BY SIMILARITY.
585 9246  BY SIMILARITY.
586 9284  BY SIMILARITY.
587 9322  BY SIMILARITY.
588 9360  BY SIMILARITY.
589 9398  BY SIMILARITY.
590 9436  BY SIMILARITY.
591 9474  BY SIMILARITY.
592 9512  BY SIMILARITY.
593 9550  BY SIMILARITY.
594 9588  BY SIMILARITY.
595 9626  BY SIMILARITY.
596 9664  BY SIMILARITY.
597 9702  BY SIMILARITY.
598 9740  BY SIMILARITY.
599 9778  BY SIMILARITY.
600 9816  BY SIMILARITY.
601 9854  BY SIMILARITY.
602 9892  BY SIMILARITY.
603 9930  BY SIMILARITY.
604 9968  BY SIMILARITY.
605 10006  BY SIMILARITY.
606 10044  BY SIMILARITY.
607 10082  BY SIMILARITY.
608 10120  BY SIMILARITY.
609 10158  BY SIMILARITY.
610 10196  BY SIMILARITY.
611 10234  BY SIMILARITY.
612 10272  BY SIMILARITY.
613 10310  BY SIMILARITY.
614 10348  BY SIMILARITY.
615 10386  BY SIMILARITY.
616 10424  BY SIMILARITY.
617 10462  BY SIMILARITY.
618 10500  BY SIMILARITY.
619 10538  BY SIMILARITY.
620 10576  BY SIMILARITY.
621 10614  BY SIMILARITY.
622 10652  BY SIMILARITY.
623 10690  BY SIMILARITY.
624 10728  BY SIMILARITY.
625 10766  BY SIMILARITY.
626 10804  BY SIMILARITY.
627 10842  BY SIMILARITY.
628 10880  BY SIMILARITY.
629 10918  BY SIMILARITY.
630 10956  BY SIMILARITY.
631 10994  BY SIMILARITY.
632 11032  BY SIMILARITY.
633 11070  BY SIMILARITY.
634 11108  BY SIMILARITY.
635 11146  BY SIMILARITY.
636 11184  BY SIMILARITY.
637 11222  BY SIMILARITY.
638 11260  BY SIMILARITY.
639 11298  BY SIMILARITY.
640 11336  BY SIMILARITY.
641 11374  BY SIMILARITY.
642 11412  BY SIMILARITY.
643 11450  BY SIMILARITY.
644 11488  BY SIMILARITY.
645 11526  BY SIMILARITY.
646 11564  BY SIMILARITY.
647 11602  BY SIMILARITY.
648 11640  BY SIMILARITY.
649 11678  BY SIMILARITY.
650 11716  BY SIMILARITY.
651 11754  BY SIMILARITY.
652 11792  BY SIMILARITY.
653 11830  BY SIMILARITY.
654 11868  BY SIMILARITY.
655 11906  BY SIMILARITY.
656 11944  BY SIMILARITY.
657 11982  BY SIMILARITY.
658 12020  BY SIMILARITY.
659 12058  BY SIMILARITY.
660 12096  BY SIMILARITY.
661 12134  BY SIMILARITY.
662 12172  BY SIMILARITY.
663 12210  BY SIMILARITY.
664 12248  BY SIMILARITY.
665 12286  BY SIMILARITY.
666 12324  BY SIMILARITY.
667 12362  BY SIMILARITY.
668 12400  BY SIMILARITY.
669 12438  BY SIMILARITY.
670 12476  BY SIMILARITY.
671 12514  BY SIMILARITY.
672 12552  BY SIMILARITY.
673 12590  BY SIMILARITY.
674 12628  BY SIMILARITY.
675 12666  BY SIMILARITY.
676 12704  BY SIMILARITY.
677 12742  BY SIMILARITY.
678 12780  BY SIMILARITY.
679 12818  BY SIMILARITY.
680 12856  BY SIMILARITY.
681 12894  BY SIMILARITY.
682 12932  BY SIMILARITY.
683 12970  BY SIMILARITY.
684 13008  BY SIMILARITY.
685 13046  BY SIMILARITY.
686 13084  BY SIMILARITY.
687 13122  BY SIMILARITY.
688 13160  BY SIMILARITY.
689 13198  BY SIMILARITY.
690 13236  BY SIMILARITY.
691 13274  BY SIMILARITY.
692 13312  BY SIMILARITY.
693 13350  BY SIMILARITY.
694 13388  BY SIMILARITY.
695 13426  BY SIMILARITY.
696 13464  BY SIMILARITY.
697 13502  BY SIMILARITY.
698 13540  BY SIMILARITY.
699 13578  BY SIMILARITY.
700 13616  BY SIMILARITY.
701 13654  BY SIMILARITY.
702 13692  BY SIMILARITY.
703 13730  BY SIMILARITY.
704 13768  BY SIMILARITY.
705 13806  BY SIMILARITY.
706 13844  BY SIMILARITY.
707 13882  BY SIMILARITY.
708 13920  BY SIMILARITY.
709 13958  BY SIMILARITY.
710 13996  BY SIMILARITY.
711 14034  BY SIMILARITY.
712 14072  BY SIMILARITY.
713 14110  BY SIMILARITY.
714 14148  BY SIMILARITY.
715 14186  BY SIMILARITY.
716 14224  BY SIMILARITY.
717 14262  BY SIMILARITY.
718 14300  BY SIMILARITY.
719 14338  BY SIMILARITY.
720 14376  BY SIMILARITY.
721 14414  BY SIMILARITY.
722 14452  BY SIMILARITY.
723 14490  BY SIMILARITY.
724 14528  BY SIMILARITY.
725 14566  BY SIMILARITY.
726 14604  BY SIMILARITY.
727 14642  BY SIMILARITY.
728 14680  BY SIMILARITY.
729 14718  BY SIMILARITY.
730 14756  BY SIMILARITY.
731 14794  BY SIMILARITY.
732 14832  BY SIMILARITY.
733 14870  BY SIMILARITY.
734 14908  BY SIMILARITY.
735 14946  BY SIMILARITY.
736 14984  BY SIMILARITY.
737 15022  BY SIMILARITY.
738 15060  BY SIMILARITY.
739 15098  BY SIMILARITY.
740 15136  BY SIMILARITY.
741 15174  BY SIMILARITY.
742 15212  BY SIMILARITY.
743 15250  BY SIMILARITY.
744 15288  BY SIMILARITY.
745 15326  BY SIMILARITY.
746 15364  BY SIMILARITY.
747 15402  BY SIMILARITY.
748 15440  BY SIMILARITY.
749 15478  BY SIMILARITY.
750 15516  BY SIMILARITY.
751 15554  BY SIMILARITY.
752 15592  BY SIMILARITY.
753 15630  BY SIMILARITY.
754 15668  BY SIMILARITY.
755 15706  BY SIMILARITY.
756 15744  BY SIMILARITY.
757 15782  BY SIMILARITY.
758 15820  BY SIMILARITY.
759 15858  BY SIMILARITY.
760 15896  BY SIMILARITY.
761 15934  BY SIMILARITY.
762 15972  BY SIMILARITY.
763 16010  BY SIMILARITY.
764 16048  BY SIMILARITY.
765 16086  BY SIMILARITY.
766 16124  BY SIMILARITY.
767 16162  BY SIMILARITY.
768 16200  BY SIMILARITY.
769 16238  BY SIMILARITY.
770 16276  BY SIMILARITY.
771 16314  BY SIMILARITY.
772 16352  BY SIMILARITY.
773 16390  BY SIMILARITY.
774 16428  BY SIMILARITY.
775 16466  BY SIMILARITY.
776 16504  BY SIMILARITY.
777 16542  BY SIMILARITY.
778 16580  BY SIMILARITY.
779 16618  BY SIMILARITY.
780 16656  BY SIMILARITY.
781 16694  BY SIMILARITY.
782 16732  BY SIMILARITY.
783 16770  BY SIMILARITY.
784 16808  BY SIMILARITY.
785 16846  BY SIMILARITY.
786 16884  BY SIMILARITY.
787 16922  BY SIMILARITY.
788 16960  BY SIMILARITY.
789 17000  BY SIMILARITY.
790 17040  BY SIMILARITY.
791 17080  BY SIMILARITY.
792 17120  BY SIMILARITY.
793 17160  BY SIMILARITY.
794 17200  BY SIMILARITY.
795 17240  BY SIMILARITY.
796 17280  BY SIMILARITY.
797 17320  BY SIMILARITY.
798 17360  BY SIMILARITY.
799 17400  BY SIMILARITY.
800 17440  BY SIMILARITY.
801 17480  BY SIMILARITY.
802 17520  BY SIMILARITY.
803 17560  BY SIMILARITY.
804 17600  BY SIMILARITY.
805 17640  BY SIMILARITY.
806 17680  BY SIMILARITY.
807 17720  BY SIMILARITY.
808 17760  BY SIMILARITY.
809 17800  BY SIMILARITY.
810 17840  BY SIMILARITY.
811 17880  BY SIMILARITY.
812 17920  BY SIMILARITY.
813 17960  BY SIMILARITY.
814 18000  BY SIMILARITY.
815 18040  BY SIMILARITY.
816 18080  BY SIMILARITY.
817 18120  BY SIMILARITY.
818 18160  BY SIMILARITY.
819 18200  BY SIMILARITY.
820 18240  BY SIMILARITY.
821 18280  BY SIMILARITY.
822 18320  BY SIMILARITY.
823 18360  BY SIMILARITY.
824 18400  BY SIMILARITY.
825 18440  BY SIMILARITY.
826 18480  BY SIMILARITY.
827 18520  BY SIMILARITY.
828 18560  BY SIMILARITY.
829 18600  BY SIMILARITY.
830 18640  BY SIMILARITY.
831 18680  BY SIMILARITY.
832 18720  BY SIMILARITY.
833 18760  BY SIMILARITY.
834 18800  BY SIMILARITY.
835 18840  BY SIMILARITY.
836 18880  BY SIMILARITY.
837 18920  BY SIMILARITY.
838 18960  BY SIMILARITY.
839 19000  BY SIMILARITY.
840 19040  BY SIMILARITY.
841 19080  BY SIMILARITY.
842 19120  BY SIMILARITY.
843 19160  BY SIMILARITY.
844 19200  BY SIMILARITY.
845 19240  BY SIMILARITY.
846 19280  BY SIMILARITY.
847 19320  BY SIMILARITY.
848 19360  BY SIMILARITY.
849 19400  BY SIMILARITY.
850 19440  BY SIMILARITY.
851 19480  BY SIMILARITY.
852 19520  BY SIMILARITY.
853 19560  BY SIMILARITY.
854 19600  BY SIMILARITY.
855 19640  BY SIMILARITY.
856 19680  BY SIMILARITY.
857 19720  BY SIMILARITY.
858 19760  BY SIMILARITY.
859 19800  BY SIMILARITY.
860 19840  BY SIMILARITY.
861 19880  BY SIMILARITY.
862 19920  BY SIMILARITY.
863 19960  BY SIMILARITY.
864 20000  BY SIMILARITY.
865 20040  BY SIMILARITY.
866 20080  BY SIMILARITY.
867 20120  BY SIMILARITY.
868 20160  BY SIMILARITY.
869 20200  BY SIMILARITY.
870 20240  BY SIMILARITY.
871 20280  BY SIMILARITY.
872 20320  BY SIMILARITY.
873 20360  BY SIMILARITY.
874 20400  BY SIMILARITY.
875 20440  BY SIMILARITY.
876 20480  BY SIMILARITY.
877 20520  BY SIMILARITY.
878 20560  BY SIMILARITY.
879 20600  BY SIMILARITY.
880 20640  BY SIMILARITY.
881 20680  BY SIMILARITY.
882 20720  BY SIMILARITY.
883 20760  BY SIMILARITY.
884 20800  BY SIMILARITY.
885 20840  BY SIMILARITY.
886 20880  BY SIMILARITY.
887 20920  BY SIMILARITY.
888 20960  BY SIMILARITY.
889 21000  BY SIMILARITY.
890 21040  BY SIMILARITY.
891 21080  BY SIMILARITY.
892 21120  BY SIMILARITY.
893 21160  BY SIMILARITY.
894 21200  BY SIMILARITY.
895 21240  BY SIMILARITY.
896 21280  BY SIMILARITY.
897 21320  BY SIMILARITY.
898 21360  BY SIMILARITY.
899 21400  BY SIMILARITY.
900 21440  BY SIMILARITY.
901 21480  BY SIMILARITY.
902 21520  BY SIMILARITY.
903 21560  BY SIMILARITY.
904 21600  BY SIMILARITY.
905 21640  BY SIMILARITY.
906 21680  BY SIMILARITY.
907 21720  BY SIMILARITY.
908 21760  BY SIMILARITY.
909 21800  BY SIMILARITY.
910 21840  BY SIMILARITY.
911 21880  BY SIMILARITY.
912 21920  BY SIMILARITY.
913 21960  BY SIMILARITY.
914 22000  BY SIMILARITY.
915 22040  BY SIMILARITY.
916 22080  BY SIMILARITY.
917 22120  BY SIMILARITY.
918 22160  BY SIMILARITY.
919 22200  BY SIMILARITY.
920 22240  BY SIMILARITY.
921 22280  BY SIMILARITY.
922 22320  BY SIMILARITY.
923 22360  BY SIMILARITY.
924 22400  BY SIMILARITY.
925 22440  BY SIMILARITY.
926 22480  BY SIMILARITY.
927 22520  BY SIMILARITY.
928 22560  BY SIMILARITY.
929 22600  BY SIMILARITY.
930 22640  BY SIMILARITY.
931 22680  BY SIMILARITY.
932 22720  BY SIMILARITY.
933 22760  BY SIMILARITY.
934 22800  BY SIMILARITY.
935 22840  BY SIMILARITY.
936 22880  BY SIMILARITY.
937 22920  BY SIMILARITY.
938 22960  BY SIMILARITY.
939 23000  BY SIMILARITY.
940 23040  BY SIMILARITY.
941 23080  BY SIMILARITY.
942 23120  BY SIMILARITY.
943 23160  BY SIMILARITY.
944 23200  BY SIMILARITY.
945 23240  BY SIMILARITY.
946 23280  BY SIMILARITY.
947 23320  BY SIMILARITY.
948 23360  BY SIMILARITY.
949 23400  BY SIMILARITY.
950 23440  BY SIMILARITY.
951 23480  BY SIMILARITY.
952 23520  BY SIMILARITY.
953 23560  BY SIMILARITY.
954 23600  BY SIMILARITY.
955 23640  BY SIMILARITY.
956 23680  BY SIMILARITY.
957 23720  BY SIMILARITY.
958 23760  BY SIMILARITY.
959 23800  BY SIMILARITY.
960 23840  BY SIMILARITY.
961 23880  BY SIMILARITY.
962 23920  BY SIMILARITY.
963 23960  BY SIMILARITY.
964 24000  BY SIMILARITY.
965 24040  BY SIMILARITY.
966 24080  BY SIMILARITY.
967 24120  BY SIMILARITY.
968 24160  BY SIMILARITY.
969 24200  BY SIMILARITY.
970 24240  BY SIMILARITY.
971 24280  BY SIMILARITY.
972 24320  BY SIMILARITY.
973 24360  BY SIMILARITY.
974 24400  BY SIMILARITY.
975 24440  BY SIMILARITY.
976 24480  BY SIMILARITY.
977 24520  BY SIMILARITY.
978 24560  BY SIMILARITY.
979 24600  BY SIMILARITY.
980 24640  BY SIMILARITY.
981 24680  BY SIMILARITY.
982 24720  BY SIMILARITY.
983 24760  BY SIMILARITY.
984 24800  BY SIMILARITY.
985 24840  BY SIMILARITY.
986 24880  BY SIMILARITY.
987 24920  BY SIMILARITY.
988 24960  BY SIMILARITY.
989 25000  BY SIMILARITY.
990 25040  BY SIMILARITY.
991 25080  BY SIMILARITY.
992 25120  BY SIMILARITY.
993 25160  BY SIMILARITY.
994 25200  BY SIMILARITY.
995 25240  BY SIMILARITY.
996 25280  BY SIMILARITY.
997 25320  BY SIMILARITY.
998 25360  BY SIMILARITY.
999 25400  BY SIMILARITY.
1000 25440  BY SIMILARITY.
1001 25480  BY SIMILARITY.
1002 25520  BY SIMILARITY.
1003 25560  BY SIMILARITY.
1004 25600  BY SIMILARITY.
1005 25640  BY SIMILARITY.
1006 25680  BY SIMILARITY.
1007 25720  BY SIMILARITY.
1008 25760  BY SIMILARITY.
1009 25800  BY SIMILARITY.
1010 25840  BY SIMILARITY.
1011 25880  BY SIMILARITY.
1012 25920  BY SIMILARITY.
1013 25960  BY SIMILARITY.
1014 26000  BY SIMILARITY.
1015 26040  BY SIMILARITY.
1016 26080  BY SIMILARITY.
1017 26120  BY SIMILARITY.
1018 26160  BY SIMILARITY.
1019 26200  BY SIMILARITY.
1020 26240  BY SIMILARITY.
1021 26280  BY SIMILARITY.
1022 26320  BY SIMILARITY.
1023 26360  BY SIMILARITY.
1024 26400  BY SIMILARITY.
1025 26440  BY SIMILARITY.
1026 26480  BY SIMILARITY.
1027 26520  BY SIMILARITY.
1028 26560  BY SIMILARITY.
1029 26600  BY SIMILARITY.
1030 26640  BY SIMILARITY.
1031 26680  BY SIMILARITY.
1032 26720  BY SIMILARITY.
1033 26760  BY SIMILARITY.
1034 26800  BY SIMILARITY.
1035 26840  BY SIMILARITY.
1036 26880  BY SIMILARITY.
1037 26920  BY SIMILARITY.
1038 26960  BY SIMILARITY.
1039 27000  BY SIMILARITY.
1040 27040  BY SIMILARITY.
1041 27080  BY SIMILARITY.
1042 27120  BY SIMILARITY.
1043 27160  BY SIMILARITY.
1044 27200  BY SIMILARITY.
1045 27240  BY SIMILARITY.
1046 27280  BY SIMILARITY.
1047 27320  BY SIMILARITY.
1048 27360  BY SIMILARITY.
1049 27400  BY SIMILARITY.
1050 27440  BY SIMILARITY.
1051 27480  BY SIMILARITY.
1052 27520  BY SIMILARITY.
1053 27560  BY SIMILARITY.
1054 27600  BY SIMILARITY.
1055 27640  BY SIMILARITY.
1056 27680  BY SIMILARITY.
1057 27720  BY SIMILARITY.
1058 27760  BY SIMILARITY.
1059 27800  BY SIMILARITY.
1060 27840  BY SIMILARITY.
1061 27880  BY SIMILARITY.
1062 27920  BY SIMILARITY.
1063 27960  BY SIMILARITY.
1064 28000  BY SIMILARITY.
1065 28040  BY SIMILARITY.
1066 28080  BY SIMILARITY.
1067 28120  BY SIMILARITY.
1068 28160  BY SIMILARITY.
1069 28200  BY SIMILARITY.
1070 28240  BY SIMILARITY.
1071 28280  BY SIMILARITY.
1072 28320  BY SIMILARITY.
1073 28360  BY SIMILARITY.
1074 28400  BY SIMILARITY.
1075 28440  BY SIMILARITY.
1076 
```

```

RA Bannantine J.P., Rockey D.D.;
RT "Use of primate model system to identify Chlamydia trachomatis protein
RL antigens recognized uniquely in the context of infection.";
RL Microbiology 145:2077-2085(1999).
CC -!- CATALYTIC ACTIVITY: UDP-3-O-(3-hydroxytetradecanoyl)glucosamine +
CC (R)-3-hydroxytetradecanoyl-[acyl-carrier protein] = UDP-2,3-bis(3-
CC hydroxytetradecanoyl)glucosamine + [acyl-carrier protein].
CC -!- PATHWAY: Lipid A biosynthesis; Third step.
CC -!- SIMILARITY: BELONGS TO THE TRANSFERASE HEXAPEPTIDE REPEAT FAMILY.
CC LPXD SUBFAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; AE001297; AAC67836.1; -.
DR EMBL; AF077009; AAC35947.1; -.
DR InterPro; IPR001451; Hexapep_transf.
DR Pfam; PF00132; hexapep; 8.
DR PROSITE; PS00101; HEXAPEP_TRANSFERASES; FALSE_NEG.
KW Transferase; Acyltransferase; Lipid A biosynthesis; Lipid synthesis;
KW Repeat; Complete proteome.
FT CONFLICT 2 2 S -> C (IN REF. 2).
FT CONFLICT 7 7 S -> F (IN REF. 2).
FT CONFLICT 157 157 E -> Q (IN REF. 2).
FT CONFLICT 226 226 G -> A (IN REF. 2).
SQ SEQUENCE 354 AA; 38404 MW; B9C547C129AE17BB CRC64;

Query Match 46.0%; Score 40; DB 1; Length 354;
Best Local Similarity 61.5%; Pred. No. 31;
Matches 8; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 4 IVQCRSVEGSCGF 16
Db 178 IIQPGAVIGSCGF 190
1:1:1:11111

RESULT 35
LPXD_CHLPN STANDARD; PRT; 360 AA.
ID Q928N6;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acyltransferase
DE (EC 2.3.1.-).
GN LPXD OR CPN0302 OR CP0456.
OS Chlamydia pneumoniae (Chlamydia phila pneumoniae).
OC Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia phila.
OX NCBI_TaxID=833558;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CWL029;
RX MEDLINE=99206606; PubMed=10192388;
RA Kallman S., Mitchell W., Marathe R., Lammel C., Fan J., Hyman R.W.,
RA Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
RT "Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
RL Nat. Genet. 21:385-389(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=AR39;
RX MEDLINE=20150255; PubMed=10684935;
RA Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
RA White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.,
RA Linher K., Weidman J., Khouri H., Craven B., Bowman C., Dodson R.,
RA Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.L.,
RA Eisen J., Fraser C.M.;
RT "Genome sequences of Chlamydia trachomatis MoPn and Chlamydia

```

```

RT pneumoniae AR39.";
RL Nucleic Acids Res. 28:1397-1406(2000).
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=J138;
RX MEDLINE=20330349; PubMed=10871362;
RA Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
RA Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
RT "Comparison of whole genome sequences of Chlamydia pneumoniae J138
RT from Japan and CWL029 from USA.";
RL Nucleic Acids Res. 28:2311-2314(2000).
CC -!- CATALYTIC ACTIVITY: UDP-3-O-(3-hydroxytetradecanoyl)glucosamine +
CC (R)-3-hydroxytetradecanoyl-[acyl-carrier protein] = UDP-2,3-bis(3-
CC hydroxytetradecanoyl)glucosamine + [acyl-carrier protein].
CC -!- PATHWAY: Lipid A biosynthesis; Third step.
CC -!- SIMILARITY: BELONGS TO THE TRANSFERASE HEXAPEPTIDE REPEAT FAMILY.
CC LPXD SUBFAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; AE001615; AAD18451.1; -.
DR EMBL; AE002207; AAF38294.1; -.
DR EMBL; AP002546; BAA98512.1; -.
DR PHCI-2DPAGE; Q928N6; -.
DR TIGR; CP0456; -.
DR InterPro; IPR001451; Hexapep_transf.
DR Pfam; PF00132; hexapep; 8.
DR PROSITE; PS00101; HEXAPEP_TRANSFERASES; FALSE_NEG.
KW Transferase; Acyltransferase; Lipid A biosynthesis; Lipid synthesis;
KW Repeat; Complete proteome.
SQ SEQUENCE 360 AA; 38846 MW; 4CDD843A6AF77B3F CRC64;

Query Match 46.0%; Score 40; DB 1; Length 360;
Best Local Similarity 61.5%; Pred. No. 31;
Matches 8; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 4 IVQCRSVEGSCGF 16
Db 179 VVQPGAVLGSCGF 191
1:1:1:11111

RESULT 36
ATSL_MOUSE STANDARD; PRT; 968 AA.
ID ATSL_MOUSE
AC P97857; O54768;
DT 30-MAY-2000 (Rel. 39, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE ADAMTS-1 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase
DE with thrombospondin motifs 1) (ADAM-TS 1) (ADAM-TS1).
GN ADAMTS1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=129/SVJ;
RX MEDLINE=98110583; PubMed=9441751;
RA Kuno K., Lizasa H., Ohno S., Matsushima K.;
RT "The exon/intron organization and chromosomal mapping of the mouse
RT ADAMTS-1 gene encoding an ADAM family protein with TSP motifs.";
RL Genomics 46:466-471(1997).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=97150761; PubMed=8995297;

```

RA Kuno K., Kanada N., Nakashima E., Fujiki F., Ichimura F.,
RA Matsushima K.;
RT "Molecular cloning of a gene encoding a new type of metalloproteinase-
RT disintegrin family protein with thrombospondin motifs as an
RT inflammation associated gene.";
RL J. Biol. Chem. 272:556-562(1997).
RN [3]
RP CHARACTERIZATION, AND MUTAGENESIS OF GLU-403.
RX MEDLINE-99303657; PubMed-10373500;
RA Kuno K., Terashima Y., Matsushima K.;
RT "ADAMTS-1 is an active metalloproteinase associated with the
RT extracellular matrix.";
RL J. Biol. Chem. 274:18821-18826(1999).
RN [4]
RP FUNCTION.
RX MEDLINE-20389568; PubMed-10930576;
RA Kuno K., Okada Y., Kawashima H., Nakamura H., Miyasaka M.,
RA Onno H., Matsushima K.;
RT "ADAMTS-1 cleaves a cartilage proteoglycan, aggrecan.";
RL FEBS Lett. 478:241-245(2000).
RN [5]
RP FUNCTION, AND INDUCTION.
RX MEDLINE-20243757; PubMed-10781075;
RA Robker R.L., Russell D.L., Espey L.L., Lydon J.P., O'Malley B.W.,
RA Richards J.S.;
RT "progesterone-regulated genes in the ovulation process: ADAMTS-1 and
RT cathepsin L proteases.";
RL Proc. Natl. Acad. Sci. U.S.A. 97:4689-4694(2000).
CC -1- FUNCTION: CLEAVES AGGECAN, A CARTILAGE PROTEOGLYCAN, AND MAY BE
CC INVOLVED IN ITS TURNOVER. HAS ANGIOGENIC INHIBITOR ACTIVITY (BY
CC SIMILARITY). ACTIVE METALLOPROTEINASE, WHICH MAY BE ASSOCIATED WITH
CC VARIOUS INFLAMMATORY PROCESSES AS WELL AS DEVELOPMENT OF CANCER
CC CACHEXIA. MAY PLAY A CRITICAL ROLE IN FOLLICULAR RUPTURE (BY
CC SIMILARITY).
CC -1- CATALYTIC ACTIVITY: CLEAVES AGGECAN AT THE 1691-GLU-1-LEU-1692
CC SITE, WITHIN THE CHONDROITIN SULFATE ATTACHMENT DOMAIN.
CC -1- COFACTOR: BINDS 1 ZINC ION (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: SECRETED. ASSOCIATED WITH THE EXTRACELLULAR
CC MATRIX.
CC -1- INDUCTION: INDUCED IN VITRO IN COLON ADENOCARCINOMA CELLS BY
CC INTERLEUKIN-1, OR IN VIVO IN KIDNEY AND HEART BY
CC LIPOPOLYSACCHARIDE. ALSO INDUCED BY LH STIMULATION IN GRANULOSA
CC CELLS OF PREOVULATORY FOLLICLES.
CC -1- DOMAIN: THE SPACER DOMAIN AND THE TSP TYPE-1 DOMAINS ARE IMPORTANT
CC FOR A TIGHT INTERACTION WITH THE EXTRACELLULAR MATRIX.
CC -1- PTM: THE PRECURSOR IS CLEAVED BY A URIN ENDOPEPTIDASE.
CC -1- SIMILARITY: BELONGS TO PEPTIDASE FAMILY M12B.
CC -1- SIMILARITY: CONTAINS 1 DISINTEGRIN-LIKE DOMAIN.
CC -1- SIMILARITY: CONTAINS 3 TSP TYPE-1 DOMAINS.
CC -1- CAUTION: REF.2 SEQUENCE DIFFERS FROM THAT SHOWN DUE TO A
CC FRAMESHIFT IN POSITION 7.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; AB001735; BAA24501.1; ALT_INIT.
DR EMBL; D67076; BAA11088.1; ALT_FRAME.
DR MEROPS; M12.222; .
DR MGD; MGI:109249; Adamts1.
DR InterPro; IPR001762; Disintegrin.
DR InterPro; IPR002870; Pep_M12B_propep.
DR InterPro; IPR001590; Reprolysin.
DR InterPro; IPR000884; TSP1.
DR InterPro; IPR000130; Zn_M12Bptdse.
DR Pfam; PF01562; Pep_M12B_propep; 1.
DR Pfam; PF01421; Reprolysin; 1.
DR Pfam; PF00090; tsp_1; 3.
DR SMART; SM00209; TSP1; 3.

DR PROSITE; PS50215; ADAM_MEPHO; 1.
DR PROSITE; PS00427; DISINTEGRIN_1; FALSE_NEG.
DR PROSITE; PS50092; TSP1; 3.
DR PROSITE; PS00142; ZINC_PROTEASE; 1.
KW Hydrolase; Metalloprotease; Zinc; Signal; Glycoprotein; Zymogen;
KW Repeat; Extracellular matrix; Heparin-binding.
FT SIGNAL 1 48
FT PROPEP 49 253
FT CHAIN 254 968
FT SITE 206 206
FT METAL 402 402
FT ACT_SITE 403 403
FT METAL 406 406
FT METAL 412 412
FT DOMAIN 477 559
FT DOMAIN 560 617
FT DOMAIN 618 725
FT DOMAIN 726 850
FT DOMAIN 851 909
FT DOMAIN 910 968
FT DOMAIN 195 199
FT CARBOHYD 548 548
FT CARBOHYD 721 721
FT CARBOHYD 765 765
FT CARBOHYD 783 783
FT CARBOHYD 946 946
FT MUTAGEN 403 403
FT CONFLICT 335 335
FT CONFLICT 425 425
SQ SEQUENCE 968 AA; 105841 MW; 42EBDA55499PB6C1 CRC64;

Query Match 46.0%; Score 40; DB 1; Length 968;
Best Local Similarity 60.0%; Pred. No. 75;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 3 RIVQCRSVEG 12
I:||||:|
Db 878 RVVQCRDING 887

RESULT 37
ID DPOL_ADE02 STANDARD; PRT; 1056 AA.
AC P03261;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE DNA polymerase (EC 2.7.7.7).
GN POL.
OS Human adenovirus type 2.
OC Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Mastadenovirus.
OX NCBI_TaxID=10515;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-83056843; PubMed-7142161;
RA Giergas T.R., Sciaky D., Gellinas R.E., Bing-Dong J., Yen C.E.,
RA Kelly M.W., Bullock P.A., Parsons B.L., O'Neill K.E., Roberts R.J.;
RT "Nucleotide sequences from the adenovirus-2 genome.";
RL J. Biol. Chem. 257:13475-13491(1982).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE-83056844; PubMed-7142162;
RA Alstrom P., Akusjervi G., Pettersson M., Pettersson U.;
RT "DNA sequence analysis of the region encoding the terminal protein
RT and the hypothetical N-gene product of adenovirus type 2.";
RL J. Biol. Chem. 257:13492-13498(1982).
CC -1- CATALYTIC ACTIVITY: N deoxynucleoside triphosphate - N diphosphate
CC + {DNA}(N).
CC -1- MISCELLANEOUS: THIS DNA POLYMERASE REQUIRES A PROTEIN AS A PRIMER.
CC -1- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration

CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

DR EMBL: J01917; AAA92206.1; -;
DR PIR: A00711; WMAD12.
DR InterPro: IPRO02064; DNA_pol_B.
DR Pfam: PF00136; DNA_pol_B; 1.
DR PRINTS: PR00106; DNAPOLB.
DR SMART: SM00486; POLBC; 1.
DR PROSITE: PS00116; DNA_POLYMERASE_B; 1.
KW Transferase; DNA-directed DNA polymerase; DNA replication;
KW DNA-binding.
SQ SEQUENCE 1056 AA; 120432 MW; CD36FD6DF4E3A9EA CRC64;

Query Match 46.0%; Score 40; DB 1; Length 1056;
Best Local Similarity 50.0%; Pred. No. 81;
Matches 6; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

QY 4 IVQCRSVEGSCG 15
Db 911 LVECEIVCGACG 922
:|:|:|:|:|

RESULT 38
DPOL_ADE05 STANDARD; PRT; 1056 AA.
AC P04495;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE DNA polymerase (EC 2.7.7.7).
GN POL.
OS Human adenovirus type 5.
OC Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Mastadenovirus.
OX NCBI_TaxID=28285;
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE=84183604; PubMed=6325298;
RX Dekker B.M.M., van Ormondt H.;
RT "The nucleotide sequence of fragment HindIII-C of human adenovirus
type 5 DNA (map positions 17.1-31.7).";
RL Gene 27:115-120(1984).
CC -1- CATALYTIC ACTIVITY: N deoxynucleoside triphosphate = N diphosphate
+ [DNA](N).
CC -1- MISCELLANEOUS: THIS DNA POLYMERASE REQUIRES A PROTEIN AS A PRIMER.
CC -1- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.

CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

DR EMBL: X02996; CAA26749.1; -;
DR PIR: A00712; DJAD51.
DR InterPro: IPRO02064; DNA_pol_B.
DR Pfam: PF00136; DNA_pol_B; 1.
DR PRINTS: PR00106; DNAPOLB.
DR SMART: SM00486; POLBC; 1.
DR PROSITE: PS00116; DNA_POLYMERASE_B; 1.
KW Transferase; DNA-directed DNA polymerase; DNA replication;
KW DNA-binding.
SQ SEQUENCE 1056 AA; 120400 MW; AE7BBC107A334E99 CRC64;

Query Match 46.0%; Score 40; DB 1; Length 1056;

Best Local Similarity 50.0%; Pred. No. 81;
Matches 6; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

QY 4 IVQCRSVEGSCG 15
Db 911 LVECEIVCGACG 922
:|:|:|:|:|

RESULT 39
Y192_HUMAN STANDARD; PRT; 2124 AA.
ID Y192_HUMAN
AC Q93074;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Hypothetical protein KIAA0192 (Fragment).
GN KIAA0192.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Bone marrow;
RX MEDLINE=96281124; PubMed=8724849;
RA Nagase T., Seki N., Ishikawa K.-I., Tanaka A., Nomura N.;
RT "Prediction of the coding sequences of unidentified human genes. V.
RT The coding sequences of 40 new genes (KIAA0161-KIAA0200) deduced by
RT analysis of cDNA clones from human cell line KG-1.";
RL DNA Res. 3:17-24(1996).
CC -1- TISSUE SPECIFICITY: UBIQUITOUS.

CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

DR EMBL: D83783; BAA12112.1; -;
DR MIM: 300188; -;
KW Hypothetical protein.
FT NON_TER 1
FT DOMAIN 599 602 POLY-SER.
FT DOMAIN 1201 1207 POLY-GLY.
FT DOMAIN 1998 2124 GLN-RICH.
FT DOMAIN 1998 2023 POLY-GLN.
FT DOMAIN 2028 2033 POLY-GLN.
FT DOMAIN 2037 2070 POLY-GLN.
FT DOMAIN 2090 2097 POLY-GLN.
SQ SEQUENCE 2124 AA; 237207 MW; 255FB9419EC39F42 CRC64;

Query Match 46.0%; Score 40; DB 1; Length 2124;
Best Local Similarity 46.7%; Pred. No. 1.5e+02;
Matches 7; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

QY 2 LRIVQCRSVEGSCGF 16
Db 1043 LKALCCSSNNGTCGF 1057
:|:|:|:|:|

RESULT 40
PRL_BUFJA STANDARD; PRT; 134 AA.
ID PRL_BUFJA
AC P43001;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 01-NOV-1995 (Rel. 32, Last annotation update)
DE Prolactin (PRL) (Fragment).
OS Bufo japonicus (Japanese toad).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

```
OC Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae;
OC Bufo.
OX NCBI_TaxID=8387;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RA Takahashi N., Yamamoto K., Kikuyama S.;
RT "Cloning of a toad prolactin cDNA: expression of prolactin mRNA in
RT larval and adult pituitaries.";
RL J. Mol. Endocrinol. 11:343-349(1993).
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; S69309; AAB30425.1; -.
DR HSSP; Q28632; IAN3.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PROSITE; PS00266; SOMATOTROPIN_1; PARTIAL.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT NON_TER 1
FT DISULFID 126 134 BY SIMILARITY.
SQ SEQUENCE 134 AA; 15520 MW; D0C7BD7A26DB5544 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 134;
Best Local Similarity 40.0%; Pred. No. 16;
Matches 6; Conservative 7; Mismatches 1; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSC 14
DB 120 YLKLKRLHNGNC 134
||:::||||:|

RESULT 41.
SOM1_ACIGU STANDARD; PRT; 190 AA.
ID SOM1_ACIGU
AC F26773;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin I (Growth hormone I).
GN GH1.
OS Acipenser guldenstadti (Caspian sturgeon) (Russian sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenserinae; Acipenser.
OX NCBI_TaxID=7902;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Pituitary;
RX MEDLINE=92247810; PubMed=1576156;
RA Yasuda A., Yamaguchi K., Noso T., Papkoff H., Polenov A.L.,
RA Nicoll C.S., Kawachi H.;
RT "The complete amino acid sequence of growth hormone from sturgeon
RT (Acipenser guldenstadti).";
RL Biochim. Biophys. Acta 1120:297-304(1992).
CC CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21821 MW; EAPFF0FE56181B18 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSC 14
DB 174 YLKVMCRRFVESNC 188
||:::||||:|

RESULT 42.
SOM2_ACIGU STANDARD; PRT; 190 AA.
ID SOM2_ACIGU
AC P26774;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin II (Growth hormone II).
GN GH2.
OS Acipenser guldenstadti (Caspian sturgeon) (Russian sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenserinae; Acipenser.
OX NCBI_TaxID=7902;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Pituitary;
RX MEDLINE=92247810; PubMed=1576156;
RA Yasuda A., Yamaguchi K., Noso T., Papkoff H., Polenov A.L.,
RA Nicoll C.S., Kawachi H.;
RT "The complete amino acid sequence of growth hormone from sturgeon
RT (Acipenser guldenstadti).";
RL Biochim. Biophys. Acta 1120:297-304(1992).
CC CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21821 MW; EAPFF0FE56181B18 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSC 14
DB 174 YLKVMCRRFVESNC 188
||:::||||:|

RESULT 43.
SOMA_LABRO
```

```
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21791 MW; 7F861BDE5606FBFF CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSC 14
DB 174 YLKVMCRRFVESNC 188
||:::||||:|

RESULT 42.
SOM2_ACIGU STANDARD; PRT; 190 AA.
ID SOM2_ACIGU
AC P26774;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin II (Growth hormone II).
GN GH2.
OS Acipenser guldenstadti (Caspian sturgeon) (Russian sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenserinae; Acipenser.
OX NCBI_TaxID=7902;
RN [1]
RP SEQUENCE, AND DISULFIDE BONDS.
RC TISSUE=Pituitary;
RX MEDLINE=92247810; PubMed=1576156;
RA Yasuda A., Yamaguchi K., Noso T., Papkoff H., Polenov A.L.,
RA Nicoll C.S., Kawachi H.;
RT "The complete amino acid sequence of growth hormone from sturgeon
RT (Acipenser guldenstadti).";
RL Biochim. Biophys. Acta 1120:297-304(1992).
CC CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC CC -1- SUBCELLULAR LOCATION: Secreted.
CC CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 52 163
FT DISULFID 180 188
SQ SEQUENCE 190 AA; 21821 MW; EAPFF0FE56181B18 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 190;
Best Local Similarity 46.7%; Pred. No. 21;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

QY 1 YLRIVOCRSV-EGSC 14
DB 174 YLKVMCRRFVESNC 188
||:::||||:|

RESULT 43.
SOMA_LABRO
```

ID SOMA_LABRO STANDARD; PRT; 207 AA.
AC Q9W6J7;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH.
OS Labeo rohita (Indian major carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC Cypriniformes; Cyprinidae; Cyprininae; Carassius.
OX NCBI_TaxID=84645;
RN [1]
RP SEQUENCE FROM N.A.
RA Venugopal T., Pandian T.J., Mathavan S.;
RT "Labeo rohita (Indian major carp) growth hormone cDNA, complete cds.";
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; AF134200; AAD30540.1; -.
DR HSSP; P01241; 1HWG.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 2.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 207 SOMATOTROPIN.
FT DISULFID 71 180 BY SIMILARITY.
FT DISULFID 197 205 BY SIMILARITY.
SQ SEQUENCE 207 AA; 23521 MW; 5235BA3CBFCD7A28 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 207;
Best Local Similarity 46.7%; Pred. No. 23;
Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

OY 1 YLRIVQC-RSVEGSC 14
DB 191 YLRVANCRRSLDNC 205
|||: | |::: |

RESULT 44
SOM1_CARAU
ID SOM1_CARAU STANDARD; PRT; 210 AA.
AC O93359;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Somatotropin I precursor (Growth hormone I).
GN GH1.
OS Carassius auratus (Goldfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC Cypriniformes; Cyprinidae; Carassius.
OX NCBI_TaxID=7957;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96230236; PubMed=8651695;

Query Match 45.4%; Score 39.5; DB 1; Length 210;
Best Local Similarity 46.7%; Pred. No. 23;
Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

OY 1 YLRIVQC-RSVEGSC 14
DB 194 YLRVANCRRSLDNC 208
|||: | |::: |

RESULT 45
SOM2_CARAU
ID SOM2_CARAU STANDARD; PRT; 210 AA.
AC O93360;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin II precursor (Growth hormone II).
GN GH2.
OS Carassius auratus (Goldfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC Cypriniformes; Cyprinidae; Carassius.
OX NCBI_TaxID=7957;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96230236; PubMed=8651695;
Law M.S., Cheng K.W., Fung T.K., Chan Y.H., Yu K.L., Chan K.M.;
"Isolation and characterization of two distinct growth hormone cDNAs
from the goldfish, Carassius auratus.";
Arch. Biochem. Biophys. 330:19-23(1996).
-!- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; AF069398; AAC19389.1; -.
DR HSSP; P01241; 1HWG.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 2.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 22 BY SIMILARITY.
FT CHAIN 23 210 SOMATOTROPIN I.
FT DISULFID 71 183 BY SIMILARITY.
FT DISULFID 200 208 BY SIMILARITY.
SQ SEQUENCE 210 AA; 23759 MW; 8B68724F79046669 CRC64;

CC the European Bioinformatics Institute. There are no restrictions on its
 CC use by non-profit institutions as long as its content is in no way
 CC modified and this statement is not removed. Usage by and for commercial
 CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
 CC or send an email to license@isb-sib.ch).
 CC -----

DR EMBL; AF069399; AAC19390.1; -;
 DR HSSP; P01241; IHUW.
 DR InterPro; IPR001400; SOMATOTROPIN.
 DR Pfam; PF00103; hormone. 2.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Pituitary; Signal.
 FT SIGNAL 1 22 BY SIMILARITY.
 FT CHAIN 23 210 SOMATOTROPIN II.
 FT DISULFID 71 183 BY SIMILARITY.
 FT DISULFID 200 208 BY SIMILARITY.
 SQ SEQUENCE 210 AA; 23767 MW; 3F54F2EAABD87731 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 210;
 Best Local Similarity 46.7%; Pred. No. 23;
 Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQC-RSVEGSC 14
 |||: | | | | |
 Db 194 YLRVANCRRSLDSNC 208

RESULT 46
 SOMA_CTEID STANDARD; PRT; 210 AA.
 AC P20390; Q00220; Q00221.
 DT 01-FEB-1991 (Rel. 17, Created)
 DT 01-DEC-1992 (Rel. 24, Last sequence update)
 DT 01-MAR-2002 (Rel. 41, Last annotation update)
 DE Somatotropin precursor (Growth hormone).
 GN GH.
 OS Ctenopharyngodon idella (Grass carp),
 OS Hypophthalmichthys molitrix (Silver carp), and
 OS Hypophthalmichthys nobilis (Noble carp).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
 OC Cypriniformes; Cyprinidae; Ctenopharyngodon.
 OX NCBI_TaxID=7959, 13095, 7965;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC SPECIES=C.idella;
 RX MEDLINE=92031700; PubMed=1932119;
 RA HO W.K.K., Wong M.W., Chan A.P.Y.;
 RT "Cloning and sequencing of the grass carp (Ctenopharyngodon idellus)
 RT growth hormone gene.";
 RL Biochim. Biophys. Acta 1090:245-248(1991).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC SPECIES=C.idella;
 RX MEDLINE=89302103; PubMed=2742587;
 RA HO W.K.K., Tsang W.H., Dias N.P.;
 RT "Cloning of the grass carp growth hormone cDNA.";
 RL Biochem. Biophys. Res. Commun. 161:1239-1243(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC SPECIES=C.idella, H.molitrix, and H.nobilis; TISSUE=Pituitary;
 RX MEDLINE=93051159; PubMed=1426941;
 RA Chang Y.S., Liu C.S., Huang F.-L., Lo T.B.;
 RT "The primary structures of growth hormones of three cyprinid species:
 RT bighead carp, silver carp, and grass carp.";
 RL Gen. Comp. Endocrinol. 87:385-393(1992).
 RN [4]
 RP SEQUENCE FROM N.A.
 RC SPECIES=C.idella; TISSUE=Liver;
 RX MEDLINE=92339453; PubMed=1633815;

RA Zhu Z., He L., Chen T.T.;
 RT "Primary-structural and evolutionary analyses of the growth-hormone
 RT gene from grass carp (Ctenopharyngodon idellus).";
 RL Eur. J. Biochem. 207:643-648(1992).
 CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
 CC CONTROL.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
 CC -----
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
 CC the European Bioinformatics Institute. There are no restrictions on its
 CC use by non-profit institutions as long as its content is in no way
 CC modified and this statement is not removed. Usage by and for commercial
 CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
 CC or send an email to license@isb-sib.ch).
 CC -----

DR EMBL; M27094; AAA58724.1; -;
 DR EMBL; X60419; CAA42948.1; -;
 DR EMBL; X60474; CAA43007.1; -;
 DR EMBL; X60988; CAA43304.1; -;
 DR EMBL; X60475; CAA43008.1; -;
 DR EMBL; X60473; CAA43006.1; -;
 DR PIR; A32424; A32424.
 DR PIR; S18402; S18402.
 DR PIR; S21898; S21898.
 DR PIR; S21910; S21910.
 DR PIR; S24371; S24371.
 DR PIR; S32707; S32707.
 DR PIR; S21915; S21915.
 DR HSSP; P01241; IHUW.
 DR InterPro; IPR001400; SOMATOTROPIN.
 DR Pfam; PF00103; hormone. 2.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Pituitary; Signal.
 FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 210 SOMATOTROPIN.
 FT DISULFID 71 183 BY SIMILARITY.
 FT DISULFID 200 208 BY SIMILARITY.
 FT CONFLICT 73 73 S -> C (IN REF. 2 AND 3).
 FT CONFLICT 112 112 S -> R (IN REF. 3).
 FT CONFLICT 114 114 A -> Q (IN REF. 2 AND 3).
 SQ SEQUENCE 210 AA; 23580 MW; 98A8B3FECD52D098 CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 210;
 Best Local Similarity 46.7%; Pred. No. 23;
 Matches 7; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

QY 1 YLRIVQC-RSVEGSC 14
 |||: | | | | |
 Db 194 YLRVANCRRSLDSNC 208

RESULT 47
 SOMA_CYPEA STANDARD; PRT; 210 AA.
 AC P10298;
 DT 01-MAR-1989 (Rel. 10, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DT 01-MAR-1992 (Rel. 21, Last annotation update)
 DE Somatotropin precursor (Growth hormone).
 GN GH.
 OS Cyprinus carpio (Common carp).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
 OC Cypriniformes; Cyprinidae; Cyprinus.
 OX NCBI_TaxID=7962;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90381321; PubMed=2400791;

RT *Cloning of a gar (Lepisosteus osseus) GH cDNA: trends in
RT actinopterygian GH structure.";
RL J. Mol. Endocrinol. 16:73-80(1996).
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL AND INVOLVED IN THE REGULATION OF SEVERAL ANABOLIC
CC PROCESSES. IMPLICATED AS A OSMOREGULATORY SUBSTANCE IMPORTANT
CC FOR SEAWATER ADAPTATION.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See <http://www.isb-sib.ch/announcement/>
CC or send an email to license@isb-sib.ch).
CC
CC EMBL; S82528; AAB37388.1; -.
DR HSSP; P01246; 1BST.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 23 POTENTIAL.
FT CHAIN 24 211 SOMATOTROPIN.
FT DISULFID 73 184 BY SIMILARITY.
FT DISULFID 201 209 BY SIMILARITY.
FT SEQUENCE 211 AA; 23998 MW; 85F55990954ED9EB CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 211;
Best Local Similarity 46.7%; Pred. No. 23;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

OY 1 YLRIVQCRS-VEGSC 14
||:::| | | | |
Db 195 YLKVMKCRFEVSN 209

RESULT 50
SOMA_BUFMA
ID SOMA_BUFMA STANDARD; PRT; 213 AA.
AC O73849;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH.
OS Bufo marinus (Giant toad) (Cane toad).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Bufonidae; Bufo.
OX NCBI_TaxID=8386;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Pituitary;
RA May D., Alrubaihan J., Patel S., Dore R.M., Rand-Weaver M.;
RT "Studies on the GH/SL gene family: cloning of African lungfish
RT (Protopterus annectens) growth hormone and somatolactin and toad (Bufo
RT marinus) growth hormone.";
RL Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: GROWTH HORMONE PLAYS AN IMPORTANT ROLE IN GROWTH
CC CONTROL.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial

CC entities requires a license agreement (See <http://www.isb-sib.ch/announcement/>
CC or send an email to license@isb-sib.ch).
CC

DR EMBL; AF062746; AAC16497.1; -.
DR HSSP; P01241; 1HUM.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 25 POTENTIAL.
FT CHAIN 26 213 SOMATOTROPIN.
FT DISULFID 77 186 BY SIMILARITY.
FT DISULFID 203 211 BY SIMILARITY.
FT SEQUENCE 213 AA; 24556 MW; CB24A0F31BB0DEFF CRC64;

Query Match 45.4%; Score 39.5; DB 1; Length 213;
Best Local Similarity 46.7%; Pred. No. 24;
Matches 7; Conservative 5; Mismatches 2; Indels 1; Gaps 1;

OY 1 YLRIVQCRS-VEGSC 14
||:::| | | | |
Db 197 YLKVMKCRFEVSN 211

Search completed: July 10, 2002, 08:29:04
Job time: 201 sec
